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Importance of Air to the Roots of Growing Crops.

There are many farmers who are not familiar with the benefits resulting from land-draining, or who have formed any idea of the important effects that a free circulation of air produces upon growing crops. There are certain plants as well as animals which naturally inhabit the water and cannot long sustain life out of it; while there are others, which if confined to the water cannot long survive in it. These require a certain quantity of water, but their chief dependence is upon the atmosphere. To the latter class of plants belong the farm crops for the sustenance of man and beast.

Some lands, from the peculiar constitution of the soil are porous, and part with water so readily that they are frequently barren. Others again are composed of clay and loam of so tenacious a character that they retain a superabundance of water, except in the dryer portions of the season. The experience of European farmers, and more recently those of America, has shown that these lands cannot be cultivated profitably unless they are drained of the excess of water they contain. The most successful mode of accomplishing this is by laying under ground a system of earthen pipes or tiles which draw off the excess of water. Until this is done, no air can penetrate the soil, and seeds planted therein must rot before germination can take place, unless the planting is delayed until the excess of water can pass off by the slow processes of infiltration and evaporation. Just in proportion to the degree that the water passes off by the latter process (evaporation), just in a corresponding ratio does it extract the natural heat from the soil, rendering the remaining heat insufficient to admit of a vigorous and healthy growth of the crop. Different crops, however, require different degrees of heat. Grass, small grain, and potatoes requiring much less than Indian corn, cotton, &c. Yet there is no crop injured more from excess of water than wheat, because during the winter it receives such a continued and over supply, which cannot readily pass off except the land be underdrained, that we often see whole fields drowned and frozen out. The corn crop, in a large portion of the corn growing section of the Union, is retarded in its early growth, and consequently in its maturity, at least two weeks by the excess of water which, in the process of evaporation, deprives the soil of so much of the necessary heat for its growth. In consequence of this delay of two weeks, the crop is frequently cut short at least one-half by subsequent drouth. But while vegetation is retarded in this way, it is also checked from the want of the circulation of a due degree of air in the soil. While the

earth is filled with water, but little air will find its way below the surface, and consequently a corresponding degree of heat is cut off. For instead of the loss of a large amount of heat that is absolutely carried off by the process we have named (evaporation), a large portion that is essential to the growing crop is prevented from enering the soil by the exclusion of the air.

Immediately after the fall of considerable rain upon a field that is under-drained the soil finds relief in the passage of the water into and through the drains, and, as the water recedes, the air naturally follows, carrying with it its accompanying heat. Not only does the crop derive these benefits from the process of drainage, but it is left in condition much better adapted to the growth of crops, because land that is drained is always light and porous; whereas, if flooded and saturated with water, it becomes sodden and compact, and when broken up with the plow in spring, it remains in clods which by the drying sun become as hard as bricks, and in no condition favorable to a healthy growth.

It may not be amiss here to allude to the advantages derived by tile, or under-draining, over those by open ditches, or surface draining.—When tiles are placed three or three and a half feet below the surface, they begin to draw the water from below, and this causes it gradually to recede from the surface, leaving the soil open and porous for the free admission of air and heat; whereas, when drawn off by surface ditches it is only the surface water that passes off, leaving that contained in the soil to escape only through the avenues afforded by nature, with the surface close and compact, subject to bake by the first drying weather and sun that succeeds.

In addition to the improved state of the soil afforded by under-draining, it renders it still further susceptible of improvement by the processes of plowing and cultivation: for a well-drained soil will always break up more mellow, and may be kept more light and porous throughout the season of cultivation, and consequently admit of a still more free circulation of air to the roots of the growing plants. Herein consists the great secret of raising large crops. A soil sufficiently dry and well broken up, with the surface kept constantly light and mellow during the growing season, will yield three or four times as many bushels of corn, for instance, as similar land will when surcharged with water, and receiving only the ordinary amount of cultivation. This fact is fully proven by the statements of those who have grown premium crops of corn. Contrary to the prevailing idea of those who are not familiar with the benefits of draining, land that is under-drained, and well cultivated in summer, by repeated working, either with the plow or cultivator, will stand a severe drouth infinitely better than a soil that is wet in spring and but partially cultivated during a season of drouth. It is by keeping the surface open and light that a free circulation of air is admitted to the roots of the growing crop, which carries with it a large amount of moisture which is condensed in and retained by the soil during the shades of night.

Let these lessons once be thoroughly learned and practiced upon by the farmers of the country generally and the crops in the aggregate would be vastly increased.

The Importance of Good Farming.

We cannot too strongly urge the importance of good farming. Like everything else it pays best to be done well. The more mental power, intelligence and enterprise is expended on the farm, the better. Farming is a science, and should be conducted according to the principles of agriculture. This is what the great body of farmers have need to know. A few are already realizing the true idea of farming, and are practicing accordingly.

The Hon. Henry Wager, of Oneida county, N.Y. is an example of a wide-awake farmer.—We could mention many, but we choose to confine ourself to one in this article. This gentleman inherited from his father a farm of 300 acres. By his own energy he has added to it so as to increase his home farm to 1,200 acres, 500 of which is woodland. This farm he cultivates on the most approved principles of agriculture, which much reading, a large experience, and a wide travel have enabled him to apply with eminent success. To gain a comprehensive idea of the various systems of agriculture, he has visited every State in the Union, made three voyages to Europe, and his restless feet have even trod the sugar fields of Cuba and the fertile valleys of California. He was President of the State Agricultural Society of New York in 1852; he directed the great implement trial at Geneva; in 1848 he was elected to the legislature of his State; in 1849 was Auditor of the Treasury of the Canal Department; and one of the original trustees of the Agricultural College. In all these travels and labors, he has

kept before him the honor and success of his profession. He has sought for every improvement in stock, implements, and mode of culture.

The income of his farm for one year is set down as follows:

Cheese, $3000; Hay, $1300; Grain, $2000; Stock, $1000; Potatoes, $500; Sundries, $500. Total, $8,300.

Such an income gives him an opportunity to enlarge his borders, and carry out successfully the plans of his enterprising mind. Accordingly he has added to his real estate possessions, lands in his own State and Illinois, Michigan and California, till he now owns about 35,000 acres. This great success is the best possible proof of the importance of enterprise and skill in farming. He has spared no pains to improve himself, to learn the best mode of agriculture, the best stock, implements, &c. He has learned the importance of good farming—and to benefit his profession, is one of the most ardent and self-sacrificing friends of agricultural education. He gives the whole weight of his mind and experience in favor of agricultural colleges. He knows that the more force of mind and weight of character are used on the farm, the better will be the results. We give his example in favor of improved farming, as well as in favor of agricultural education. Farmers must be wide-awake learners in order to be most successful.

THE VALUE OF INDIAN CORN.

By those who do not know, or are too scientific to profit by the experience of nations of men and herds of fat cattle — Indian corn, rice, buckwheat, &c. are only considered good fodder. Liebig states that if we were subject to the same degree of cold as the Somoiedes, we should be able to consume the half of a calf and a dozen candles at a single meal. During excessive fatigue in low temperature, wheat flour fails to sustain the system. This is owing to a deficiency in the elements necessary to supply animal heat; and the strong desire for oleaginous substances under these circumstances, has led to the belief that animal food is necessary to human support. But late scientific experiments have led to better acquaintance with the habits of the North American Indians, and show that vegetable oil answers the same purpose as animal food; that one pound of parched Indian corn, or an equal quantity of corn meal made into bread, is more than equivalent to two pounds of fat meat.

Meal from Indian corn, contains more than four times as much oleaginous matter as wheat flour; more starch, and is consequently capable of producing more sugar, though less gluten; in other important compounds it contains nearly as much nitrogenous material. The combination of alimentary compounds in Indian corn, renders it alone the mixed diet capable of sustaining man under extraordinary circumstances. In it there is a natural coalescence of elementary principles which constitute the basis of organic life, that exists in no other vegetable production. In ultimate composition, in nutritious properties, in digestibility, and in its adaptation to the various necessities of animal life in the different climates of the earth, corn meal is capable of supplying more of the absolute want of the adult human system, than any other single substance in nature.

The above article, which we clip from the *Massachusetts Plowman*, contains important information in regard to the value of Indian corn. It should be borne in mind, however, that the different varieties of corn vary materially in regard to the most important qualities. Some varieties are nearly or quite destitute of gluten, oil, or the salts of iron, all-important constituents in the mixed diet referred to by Baron Liebig. The Tuscarora, and the White Flour-Corn are examples of this character, being composed chiefly of starch, or dextrine and starch. They make a nice white meal, which may be made into excellent bread; and on account of the greater softness of the grain are considered by some better food for horses than the more flinty varieties.

The commonly received opinion is that yellow corn contains most oil. While this is generally true, it is not invariably so. The color of corn often depends on the epidermis or hull, and sometimes on the oil—the latter is not always yellow. The Rhode Island White Flint corn contains an abundance of transparent colorless oil which can easily be seen through the clear pellucid hulls. All the flinty varieties of corn contain a considerable quantity of oil. The Canada corn or Eight-Rowed Yellow, contains more than any other variety, except the rice corn and pop corn. Among southern varieties, the Small Yellow and the Little White Flint contain most oil. It is evident that the varieties of corn containing most oil or fatty matter are much the most valuable for fattening animals or poultry, and also for human food. This fact is worth the consideration of farmers.

To Preserve Smoked Meat.—How often are we disappointed in our hopes of having sweet hams during the summer? After carefully curing and smoking, and then sewing them up in bags, and whitewashing them. Now this can be avoided by packing them in pulverized charcoal. No matter how hot the weather, nor how thick the flies, hams will keep as sweet as when packed, for years.

[Written for the Valley Farmer.]

PHILOSOPHY FOR FARMERS.

BY DR. JOHN T. HODGEN, OF ST. LOUIS.

[Continued from Sept. No.]

Nitric acid, in combination with lime, potash, soda, or magnesia, is found in the juices of many plants. It is found as the nitrate of potash in tobacco; also, in the common sunflower; in the nettle; and it has been detected in the grain of barley.

Nitric acid, like ammonia, very greatly increases the growth of plants. Applied to young grass, and sprouting grain, it hastens their growth, and also increases the amount produced, whilst the grain is much richer in gluten and more nutritious.

A given quantity of land will yield more vegetable matter, if nitrate of potash or soda be applied in proper quantities to plants growing upon it, than if they are not. It is, therefore, reasonable to conclude that nitric acid does enter the roots of plants in some form, and is capable of yielding to them a part or the whole of the nitrogen it contains.

Nitric acid is known to exist almost universally in the soils upon the earth's surface; and is particularly abundant in those regions where, the water falling, is made to evaporate from the surface on which it falls, and is not drained off by rivers into the sea.

As nitric acid forms no part of any of the solid rocks of the earth, we are forced to look elsewhere for its source. To the air we naturally turn, and in it find not only the elements, but all of the conditions necessary for its formation.

When a succession of electric sparks are passed through common air, nitric acid is slowly formed by the chemical union of the natural elements of the air—nitrogen and oxygen. The currents of electricity which in nature traverse the atmosphere, must produce the same results, and it is a matter of common observation that milk (as the ladies say) is soured by thunder storms. We have all observed, that after thunder storms vegetation appears much more flourishing than after rain without thunder; and that in seasons when thunder storms are frequent (other things being equal) crops are more abundant. This has been attributed to the direct influence of electricity on vegetation; but we know that nitric acid is formed during these storms, and that *it* is a valuable application to growing plants; and we very naturally conclude that at least a part of the benefit derived, is through the nitric acid.

Liebig found nitric acid present in every instance in the water of seventeen thunder storms; but in the *rain* of sixty other occasions, when there was no thunder, he found it but twice.

When a mixture of oxygen and ammonia is exploded by a spark of electricity, nitric acid is formed abundantly. Now, from decomposing animal and vegetable matters, and from volcanoes, ammonia is always furnished, to be mixed with the oxygen of the air. The lightning's vivid flash may explode it, and thus shower fatness and luxuriance upon the earth.

So it is true, that the lightning's flash and the thunder's roar not only proclaim the power of the God of nature, but also His goodness: and when we listen to the peals of Heaven's artillery, and watch the forked fire of the clouds, we will reflect that this is the gorgeous display of Nature's laboratory, during which important agents are combined for the use of the living creatures upon the earth.

Hydrogen, which forms five per cent. of plants, may be readily derived from the water which is held as vapor in the air that floats among the leaves; or from that which, in the liquid state, percolates the earth and is taken up by the roots and decomposed—thus furnishing the limited quantity necessary for depositure in the tissues of plants: or ammonia, whilst it gives its nitrogen to the plant, may also furnish hydrogen—and it doubtless does; but water itself could not reach the vegetables as they are scattered upon the earth's surface, from pole to pole, were it not that it is made to mount upon the "wings of the wind" and fly with it to the remotest corners of the earth.

Carbon, oxygen, nitrogen, and hydrogen—the ever present elements of plants—are derived either directly or indirectly from the air; or through aerial influence they are put in a condition to be used for their benefit, whilst all are, through the agency of water, fitted to enter into the circulation of plants, and be carried to the exact points where they are required.

The water mingled with the soil during the cold of winter is frozen, and in expanding separates its particles; and when the ice thaws out in spring, and the water is driven off by evaporation, the soil is left light and porous and filled with those elements of the atmosphere that are so essential to the germination and growth of seeds.

If a plant be bent so that its leaves are made to dip beneath the surface of water in the bright sunlight, very soon their surfaces will be covered with bubbles; and if these are gathered they will prove to be pure oxygen. If the wa-

ter contain carbonic acid, or if, during the experiment, carbonic acid has been introduced, it will be found to have diminished, while oxygen will have continued to accumulate.

If a plant be introduced into a bell-glass containing common air, in the presence of sunlight, it will be seen that carbonic acid disappears, while the oxygen is increased.

The conclusion drawn from the experiments just detailed, is, that the leaves of plants when exposed to the sun's rays absorb carbonic acid from the air and give off pure oxygen gas.

And as carbonic acid contains its own bulk of oxygen gas, combined with a known weight of carbon, it is inferred that the oxygen given off by the leaves is the same as that absorbed, as carbonic acid. It is therefore stated, that in sunshine plants *absorb* carbonic acid; decompose it in their leaves; retain the carbon and discharge the oxygen it contained. In the absence of light, or at night, the reverse takes place; oxygen is absorbed and carbonic acid is given off.

The carbon of the carbonic acid absorbed during the day is to a great degree retained, only a small part being given off at night.

Now, when the days are longest and the sun shines brightest, plants absorb and appropriate most carbon, and exhale most oxygen; such is the case in northern latitudes during spring and summer, when vegetation flourishes most vigorously.

The light of the sun in the economy of nature is equally important to vegetable and animal life, and health; in the absence of light, plants become pale and refuse to perform their most important chemical changes. Imprisoned in perpetual night the ruddy cheek becomes pale—the body wastes—the spirit sinks, and man loses all that is commendable or desirable of his physical and mental nature.

Light travels at the rate of more than twelve millions of miles per minute; or with such rapidity that it would belt the earth four hundred and eighty times in that period. It is as important to life as air itself.

Germs that long have slumbered, are not awakened and developed into living forms but by its aid; and plants robbed of its presence, grow pale, and weak, and thin, and finally starve to death, because of their incapacity to appropriate the nutrient materials offered them. Indeed, so well marked and so apparent is this, that a succession of cloudy days in spring will change the vegetation growing, even in an Illinois soil, from a strong, rich green to a sickly yellow.

The turnip tops and potato sprouts found in our cellars in early spring, are pale and weak, and are made up of little else than water; but if transferred to the light or allowed to reach it through some chink or cranny, the appearance, and indeed the very structure, is greatly and rapidly changed.

THE ARMY WORM.

Ed. Valley Farmer: You will find in the March number of *Harpers' Monthly Magazine* for 1854, page 455, some observations on the Army worm, which agree with what I have noticed the past season.

I found that they could be stopped by going each way in the same furrow with a heavy plow, and then dragging a round, rough log repeatedly in the furrow, until the dirt was reduced to dust. A short period of hot sunshine will kill them. I caught a handful and put them in a basin placed in the sun, and they all died in less than half an hour.

They seemed to originate, in my neighborhood, in fences or piles of rails or brush. Instead of maintaining that a peculiarity of season and other circumstances are necessary for their production in destructive numbers, why not take the short (thoug I believe mooted) mode of spontaneous production, as was recently done in your journal with regard to timber, &c. The season has been very favorable for all crops in this vicinity, and the earth is consequently bringing forth of her abundance.

Yours, &c. F. B. S.

Hazleside, Marion Co. Mo. Aug. 24, 1861.

Best Plan for Killing the Burdock.

Ed. Valley Farmer: For the benefit of R. Wells, who inquires for the best way to exterminate the Burdock, I will give the plan I have found convenient and safe. The burdock is a biennial plant. The first year it has no flower stem; the second, it goes to seed and dies.—The best time to kill it is when it is in bloom, especially when it has got such a start as it has on Mr. Wells' farm, for by that time nine-tenths of the plants will have been smothered out and killed by the more vigorous plants.

At that stage of the growth take a grubbing hoe and cut off the root about two inches under the ground, or an inch below the crown of the plant. At no stage of its growth, if cut off as above, will the root left in the ground sprout again. In this way, in two years (if all of the seeds have sprouted, as they are apt to do,) they will be exterminated.

It is as much work to cut off a full grown plant above ground as below; while, if cut above, it will throw out sprouts from two to twelve inches high, and thus perfect more seeds than are required to re-stock the ground.

When I came in possession of my present farm, I found it extensively scattered on it, and by pursuing the above plan I have reduced it so that this year I have found but four plants. It is one of the very worst pests of the farm.—The burrs, if matted in a horse's mane or in a sheep's wool, may be considered as settled for life; and yet I consider it the most easily exterminated of any of our weeds, for the following reasons:

The roots all die themselves. All you have to do is to stop the seeding. Each plant occupies so much ground that you have but comparatively few plants to deal with. The tendency of all the seeds to germinate the first season they reach the ground, enables the farmer to make a finish of them at once.

If Mr. Wells' ground will admit of plowing, and he plow it the first of July and again in August, and seed to rye or wheat, and after the crop is harvested, plow and sow again, in a year or two they will be gone. If this plan is followed, the fences should be moved, and all the old stumps, &c., for they have a great partiality for some such rich and safe retreat.

Fayette, Mo. H. L. Brown.

Hints for the Times, to Farmers.

"Here's to the cow,
And the two-handled plow;
Here's to the fleece and the fork."

In the midst of the present whirlwind of strife and storm of the passions, it is our province to watch and guard as far as possible the interests of agriculture. It has been the policy of political party leaders for years past to create periodical excitements, on the waves of which they might ride into office and power. Eloquent harrangues, the most lavish expenditure of money, every expedient within their power has been resorted to, in order to inveigle the masses of the people of all classes into party meshes and the whirlpool of party excitement. The evidences of the selfish, mercenary and corrupt motives of these party politicians are too common and too plain to require particular reference. We see in the present state of affairs the culmination of the system referred to. But for the habit which the people have unwittingly been lured into of yielding to the leadership of ambitious men, it seems to us impossible that the country could have been precipitated into its present unhappy condition.

Let farmers reflect upon this matter and ask themselves if these things are so; and if convinced of past political errors, let us resolve in future to turn a deaf ear and a cold shoulder to all ambitious politicians who aim to make a living out of party politics. Let us see that the management of State affairs is confided in due proportion to substantial, cool-headed farmers, who will not sacrifice the interests of the country to accomplish party designs. We have seen too much of the evils of electing selfish, empty-headed, gassy politicians to legislate for us.—We must have a reform.

Keep Cool. This is the most important advice which we can give during the present exciting times. "But," says one, "I can't keep cool and hear men talk as they do, and when such outrages are committed." We beg pardon for saying that you can keep cool if you will.—If you cannot govern yourself you can enlist, where you will be under the government of others. But, remember, that excitable men are not good soldiers. It is no disparagement to a man to keep cool under the most exciting circumstances. On the contrary, it is one of the most desirable qualities that he can possess. The prize fighter gains a great advantage over his adversary if he can make him mad. Whoever loses his temper gives his opponent a great advantage. In the present disjointed state of affairs, it is better, beyond a doubt, sometimes to quietly suffer some wrongs or outrages rather than resent them in cases where resentment will only make matters worse. That is, "do not jump out of the frying pan into the fire."

Neighbors often honestly entertain opinions and sympathies widely different from each other. Excited language leads to angry feelings, bitterness, hatred, and rash acts. Nothing is gained, much is lost. Brave and well-drilled soldiers will coolly receive the fire of the enemy, reserving their own when necessary, until the proper moment. Reserve your fire of words in all cases where that fire would do more harm than good. By all means keep cool.

Don't Neglect Your Farms. Let those who feel it a duty, go to the war. As for others, let them remember that it is quite as important now as ever, that every department of the farm should be as thoroughly attended to as possible. The army and everybody else must be fed and clothed. Agriculture is the basis of prosperity. Relief from hard times will greatly depend on the prosperity of our farms. Keep cool, and

"mind the main thing." This reminds us of an old song which we remember having heard in boyhood, descriptive of a terrific storm at sea, one stanza of which ran about as follows:

"The men fell on their bended knees,
The ladies were a' fainting;
But I fell to my bread and cheese—
I always mind the main thing."

Farmers can bear hard times better than any other class of people. They can more easily economise and curtail expenses. They can raise nearly everything that they need, and nearly everything that they raise is needed by everybody else. We would say then, to farmers, cultivate as largely as you can such crops as will be most in demand. Provide well for your stock. Take good care of your orchards. Plant as many fruit trees as you can, of the best varieties. They will be growing while the war rages; and when peace is again established, will bring you a rich reward. Do not rest upon your oars because the waters are boisterous.—Spend no time unnecessarily at the village store or grocery in fruitless discussion of exciting topics. Live in peace and harmony with your neighbors—respect their opinions—assist one another—mind your own business, and your rights will generally be respected, and you will have less cause for future regret.

Do not let your avidity for war news lead you to neglect reading your agricultural papers.—You need them now as much as ever, if not more. Your means may be somewhat crippled, but you have the more need of all the knowledge and information that you can gain in regard to the various branches of your business, in order that you may employ your labor with the best economy and realize the best returns. You need such papers for the benefit of your wife, your sons and your daughters, that all may be advancing in that kind of knowledge calculated to make their rural lives prosperous and happy. Think, also, whether you have not in your possession information, gained by your experience or observation, in regard to farm crops, live stock, fruits, flowers, gardening or or domestic economy, which would be of value to others if communicated. Publishers of agricultural papers will gladly allow your light to shine through the medium of their columns, and you will derive both pleasure and profit thereby.

We offer these hints because we believe that farmers have it in their power to greatly ameliorate the present hard times, and to contribute in a very important degree to the eventual permanent restoration of peace and prosperity; and also because we are aware that in too many instances the excitement and uncertainty of the times will be liable to absorb, in an undue degree, the attention and interest of agriculturists to the neglect of matters pertaining to their business, and which they may hereafter regret.

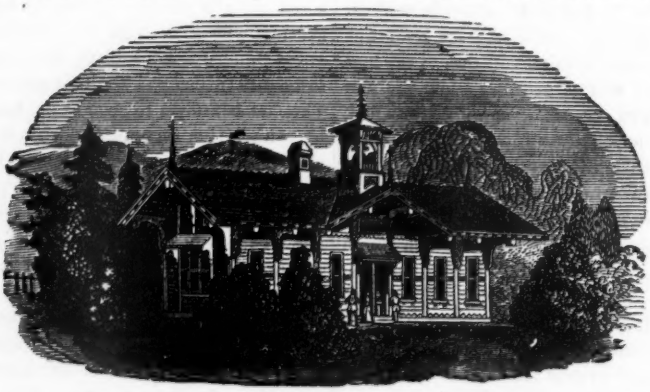
COVERING LAND WITH STRAW.

We have several times recommended covering grass and clover lands with straw or other fibrous litter, for we have often witnessed the benefits of the practice in a very marked manner. Every farmer has observed that if a bush is left lying in a field of grass, the vegetation beneath it will soon look finer and fresher than any around it. Such little facts are sufficient to impart instruction to those who seek to learn. The fact is known to every one, but the agency by which the increase of growth is brought about, involves a principle which has not been sufficiently investigated. For the present, however, we will content ourselves with the fact, and proceed to give the results of some experiments, which we have gathered in the course of our researches on the subject. Part of a field of grass which had been placed under this operation for one month had increased in weight over the remaining portion left uncovered at the rate of nearly three to one. The green grass from the part untouched, cut at the end of the month, weighed two thousand two hundred and seven pounds per acre; that of the portion placed under the operation weighed five thousand eight hundred and seventy pounds per acre. The grass was weighed as it came from the scythe. During this period there was no rain—and guano, lime, wood-ashes, and other manures tried against it, produced, during this period, no visible action. In this experiment, the covering was laid on the 15th of April, and the grass cut and weighed the 20th of May. In another case, half a hay field was covered on the 2d of May, and a month after both portions of the field were cut and weighed; and it was found that the grass from the covered portion weighed three thousand four hundred and sixty pounds, while the other weighed only nine hundred and seventy pounds. It was found, on converting the two samples of grass into hay, that the proportionate loss of weight was the same in each parcel; and the difference would be, that in one case the yield would be three tons to the acre, and in the other only one.—Another most important circumstance in the

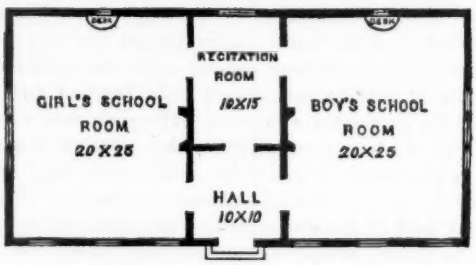
case was, that when a certain quantity of animal manure would double the quantity of grass in a given time, when laid on in the usual way, it would increase it six times when perfectly treated with a covering of straw.

These are certainly very curious experiments, and they have been repeated successfully by various individuals. They all gave uniform results when conducted fairly. Some used too much covering, but generally too little. All these experiments showed that the action was general, and that the difference in the increase of growth in a given time was in proportion to the natural fertility of the soil.

These facts clearly indicate the practical benefits to be derived by making this disposition of the refuse straw on the farm, which the owner oftentimes hardly knows what to do with. If there is any vegetation on the land, however stunted, whether of the natural or artificial grasses, its growth will be greatly increased, and the land proportionately improved. And frequently in the time of drouth, the young clover, which had been seeded in the spring, has to go through a severe ordeal in the next summer. The covering recommended would secure it from perishing, probably ninety-nine times in a hundred. A very slight sprinkling, say two wagon loads to the acre. or even less, would effectually preserve it.—[*Farmer's Journal, Petersburgh, Va.*



DISTRICT SCHOOL HOUSE.



The above plan was originally given by the late Mr. Downing, in the *Horticulturist*, and was described as follows:—"It has at least the merit of simplicity in the plan, and, as it is a parallelogram, of economy in construction. An entrance hall or lobby opens into a large school room for boys, upon one side; and one for girls on the other. Between these two rooms is a recitation room, which may contain a book-case for the school library. The exterior is bold and picturesque—the style a modification of the Swiss—and well adapted to many sites in our varied rural scenery. The widely overhanging eaves afford a species of verandah shelter round the building. This style is exceedingly well adapted for a wooden building, and its details are so simple that any country carpenter of intelligence could construct such a school house without any further working drawings. As we look upon the rural church and the district school house as contributing more essentially to the architectural education of the country at large, than any private buildings, the presenting from time to time various good models would essentially assist in banishing the present deformities which pass by these names, from the face of rural districts."

Aphides, or Plant-Lice—the New Grain Insect and Army Worm.

The grass and cereal crops have suffered the present season to an unusual extent by insect depredators. In addition to the immense numbers of the Army worm that have preyed upon the growing grass and grain, a species of Aphis has done great injury to the oat, wheat, and corn crops. Almost every family of plants is infested with certain species of plant-lice peculiar to them. These differ in form, color, clothing, &c. and in the length of the honey-tubes or bills, through which they pump up or suck the juices of the plant upon which they feed. For instance: The *Aphis Rosæ*, or Rose Louse; the *Aphis Brassicæ*, or Cabbage Louse; the *Aphis Salicti*, the louse of the willow groves, &c. But I have never before heard of serious injury done to the grain crops by this insect. In "Harris' Treatise on Insects," the author alludes to a certain insect similar to the *Thrips Cerealium*, which sometimes infests wheat in Europe, specimens of which were furnished to him by Mrs. N. G. S. Gage, formerly of Concord, N. H. But from its description or habits, I think it is nothing more nor less than the wheat midge, which, in later years, has proved so destructive to the wheat crops in this and other States; it having first appeared about the time Mrs. Gage wrote, in that section of country, and has since gradually extended West, until it has reached Ohio, Indiana, and other Western States.

I have been kindly furnished by two of the neighboring farmers with specimens of the Aphis which have appeared in such great numbers in the grain fields the present season, and I cannot discover that they differ materially from the plant-lice found on many species of the coarser vegetation.

The idea has been advanced by some of the neighboring farmers that this insect has some connection in its origin with the Army worm, or the Army worm with that, which has appeared simultaneously with it. Such an opinion would at once be ridiculed by any entomologist.

The Army worm, like all similar insects, passes through certain well known transformations. In its period of infancy it is technically called a larva, a word signifying a mask, because therein its future form is more or less masked or concealed. This name is not only applied to grubs, caterpillars and maggots, and other insects that undergo a complete transformation, but also young and wingless grasshoppers and bugs, and indeed all young insects before the wings begin to appear. The next stage, or the second period, is called the pupa state, from a slight resemblance that some of the latter present to an infant trussed in bandages, as was the fashion among the Romans.—The pupa from the caterpillar, however, is more commonly a chrysalid, because some of them, as the name implies, are gilt or adorned with golden spots. At the end of the second period, they again shed their skins and come forth fully grown, and in this stage are in their perfect or adult state, and soon die after laying their eggs.

The history of the *Aphides* is equally well understood, it having been an object of profound interest and study for the early philosophers, and is one of the most remarkable and anomalous of the insect tribes, not even excepting that of the honey bee.

The genus to which plant-lice belongs, is called *Aphis*; from a Greek word which signifies to exhaust, as they live upon the circulating juices or life-blood of the plant. In the autumn, or near the close of the season, unlike all former generations, the plant-louse brings forth a brood consisting of male and female, both being provided with wings. These pair, and the females lay their eggs, and then they die, the race being extinct for the season. The eggs thus laid are hatched in due time in the spring, and the young lice immediately begin to feed by sucking the juices from the tender plants. The numerous punctures upon the under side of the leaves cause them to curl up and present the diseased appearance observed on the rose, and peach, and leaves of other plants.

What is so anomalous and remarkable now, is, that the brood, without a single exception, consists wholly of females, which are wingless, but are in a condition immediately to continue their kind. The young not being hatched from eggs, but are produced alive, each female may be the mother of fifteen or twenty young lice in the course of a single day. The plant-lice of this second generation are also wingless females, which grow up and have their young in due time; and thus brood after brood is produced, even to the tenth generation or more, without the appearance or intervention, throughout the whole season of a single male.

This extraordinary kind of propagation ends in autumn with the birth of the winged males and females, which lay their eggs as stated, for the next annual generations.

Mr. Curtis, an English writer on the subject, estimates the offspring from a single egg, in the

course of seven generations, to amount to the enormous number of seven hundred and twenty-nine millions. At this rapid rate of increase, some would suppose that every kind of vegetation would soon be entirely destroyed. But it is proper here to remark that these, like all other insects injurious to vegetation, have their parasitic or other enemies that keep their numbers in check. Remarkable among those that depredate upon plant-lice is the Aphis Lion, one of the most voracious of all the insect tribes. There is another attendant upon the plant-louse, and those ignorant in such matters have thought that they produced the lice. I refer to the common small ant. On young apple and other trees infested with lice, ants may always be seen ascending and descending the trunks and branches. Their mission is to milk the lice. After feeding continually upon the juices of plants, the lice secrete and discharge a kind of sweet fluid called honey-dew upon which the ants feed. By certain manipulations performed by the ants, the lice give out this sweet fluid which the ants speedily devour. Plant-lice have hence been styled the kine or cattle of the ants. Other insects also feed upon this fluid collected by the Aphides.

The cause of the great numbers of the Aphis that have injured the grain crop the present season, like the increase in the numbers of the Army worm, may be attributed to a combination of causes, connected with the present and previous season, together with certain favorable conditions of the last winter for the preservation of the eggs.

There are many other interesting facts connected with the history of these insects that might be detailed; but I have already extended my notes farther than I intended at a time when other matters more generally claim the attention of the general reader. H. P. B.

Sag Harbor, Aug. 7th, 1861.

LIME AS A MANURE.

Prof. Johnston says in relation to the effects of lime upon different soils:

The purposes served by lime as a chemical constituent of the soil are at least of four distinct kinds:

1. It supplies a kind of inorganic food which appears to be necessary to the healthy growth of all our cultivated plants.

2. It neutralizes acid substances which are naturally formed in the soil, and decomposes or renders harmless other noxious compounds which are not unfrequently within the reach of the roots of plants.

3. It changes the inert vegetable matter in the soil, so as gradually to render it useful to vegetation.

4. It causes, facilitates or enables other useful compounds, both organic and inorganic, to be produced in the soil, or so promotes the decomposition of existing compounds as to prepare them more speedily for entering into the circulation of plants.

The fertilizing properties of lime, then, appear to arise, in a great measure, from the force with which it attracts carbonic acid from the atmosphere or soil to which it is exposed. This attraction for carbonic acid is so powerful, that if lime be placed in contact with animal or vegetable matter, they are decomposed or dissolved with great rapidity, and reduced to a fit state for entering the roots of plants. It is for this reason that we see such good results from the application of lime upon soils where green crops have been consumed on the land, or where any of the various plants used for that purpose have been plowed in green. It also produces equally good effects, and for the same reason, in soils newly broken up; in fact, in all soils rich in humus or vegetable matter.

But the chemical action of lime is not confined to the decomposition of vegetable and other organic matter in the soil. It appears to be clearly established by the experiments of agricultural chemists that this substance has also the property of setting at liberty the alkalies which are present in exceedingly small quantities in the soil, favoring the formation of soluble silicates, which are useful to all of our crops of grain. Lime, however, not only acts chemically, but to a certain extent it is also useful by altering the mechanical nature of the soil. For instance, it renders clayey soils less tenacious; and it is also stated that it makes sandy soils firmer, and loamy soils soft, mellow and light. Such is briefly all that is known at present concerning the chemical properties of lime.

[Written for the Valley Farmer.]

ROTATION OF CROPS.

The rotation of crops is based on the fact, now made sufficiently clear by chemical research, that the same kind of plant always extracts the same class of substances from the soil on which it is grown, eventually exhausting it, so that it refuses to grow such plant. It was for some time pursued under the impression, partly erroneous, that vegetables of a certain species gave off during their growth certain excrementitious matters which served as nutriment for those of another. For example it has been demonstrated by experiment that wheat will grow better after a crop of potatoes than after one of turnips, and that flowers will preserve their bloom longer in a vase in which some ears of green wheat have been steeped, than in one filled with water in its natural state. But, however this may be, the scientific world are of opinion that it is not the principal reason why the rotation of crops proves so advantageous. Though a great deal of latitude is allowable for the indulgence of caprice or taste as applied to the subject under consideration, yet these three things are to be kept steadily in view, viz: soil, climate, and situation. The

same system does not suit for hot and cold climates, for heavy and light soils, nor for upland and lowland tracts. In cold climates, the land requires to be broken up more frequently for the free admission of the genial influence of the atmosphere than it does in those that are hot; and the same remark applies to heavy and low-lying grounds as compared with those that are light and in more elevated and exposed situations. Some people are in the habit of cultivating the portions of their farm immediately adjoining the homestead, and of neglecting those more distant; thus, in time, rendering the different parts of a quality widely varying, whilst a regular system of alternate husbandry would maintain the fertility of all the parts alike. Grain is a very exhausting crop, because it is always allowed to ripen its seed, being cultivated exclusively for that purpose. Nature's grand object is to enable plants to reproduce their kind, and the elementary ingredients of the soil are more largely drawn on during the development and maturation of the seed than at any other stage of their growth. This shows the want of forethought in those who plant wheat, oats, or barley after corn. These products being invariably sold in market, occasion a loss to the soil of all the valuable substances that enter into their composition. The manner of cultivating them, too, encourages the growth of noxious and impoverishing weeds, and the more so if raised several seasons in succession. By cultivating green crops we may, if we think fit, add manure with profit, and at any rate we will have an opportunity of cleaning the land, and ridding it of the deleterious influence of the worthless portion of the vegetable family, even if we do not choose to avail ourselves of the facilities it affords for recuperating its exhausted energies. Furthermore, the broad leaves of green crops absorb from the atmosphere much of the materials that contribute to their growth, and being for the most part consumed on the farm, enable the farmer to feed more stock—one of the greatest sources of manure. By carrying out the rotation of crops, the farmer has it in his power to find himself profitable employment all the year round.

There are several systems of rotation, but those in which the crops regularly succeed each other in three, four, or six years, are the most generally adopted by agriculturists. We will offer a few words respecting each of these.

First, the three crop rotation. This is liable to the objection of its rendering the soil too rich in time, because two-thirds of the ground are in renovating crops each year, and only one-third in those of an exhausting nature; yet it is admirably adapted to a small farm, which is all the better the nearer it approaches to garden culture; and the six years' rotation, which is but a modification of it, is the most important of all.

The land should be divided as nearly as may be into three equal parts. In one of these the 1st year, should be planted root crops, such as potatoes, turnips, cabbages, carrots, parsnips, &c. in the second part, clover and grass (the clover for green feeding to stock, and grasses for pasture and hay,); and in the third part, grain laid down with grass seeds and clover. In the 2d year, of course grain with grass seeds succeeds the root crops of the 1st year in field No. 1. (as may be seen in the following diagram).

FIELD NUMBER ONE.

1st year.	2d year.	3d year.
Root and green crops manured.	Grain, with grass and clover seeds.	Grass for feeding and hay.

FIELD NUMBER TWO.

1st year.	2d year.	3d year.
Grass for feeding and hay.	Root and green crops manured.	Grain, with grass and clover seeds.

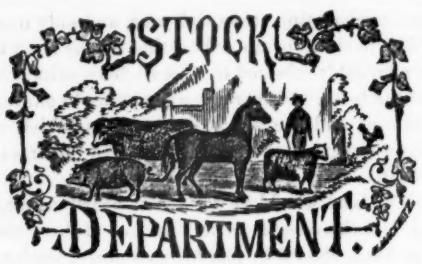
FIELD NUMBER THREE.

1st year.	2d year.	3d year.
Grain, with grass and clover seeds.	Grass for feeding and hay.	Root and green crops manured.

In field No. 2, which was growing grass or clover 1st year, plant root crops the 2d—whilst field No. 3, which you have heretofore laid down in grass seeds, you have the 2d year producing a crop of hay. In the 3d year you have in field No. 1, grass for soiling and hay; in field No. 2, grain with grass and clover seeds; and in field No. 3, root crops manured. In the fourth year the fields are respectively growing the same crops they were the first year, and so on.

Where many head of cattle are kept in proportion to the extent of ground, as is the case with many of our dairymen in the neighborhood of large cities, oats are perhaps the most profitable of all the grain crops. Stock relish its straw more than they do that of either wheat, rye, or barley; and corn, from its mode of culture, may be so managed as to make it a renovating crop.

Next month will be given the four, five and six crop rotations. P. P.



THE COW.

In the present state of society in civilized countries, it would be difficult to determine which class of animals—the cow, the sheep, or the hog—is the most useful, or could be dispensed with at the least inconvenience to man. Perhaps the hog should not be included in the category, since good olive oil can be made from cottonseed oil, and the sunlight in coal is being bottled up for daily, or rather nightly use, in the shape of Kerosene or Stone Coal Oils.

My award would favor the cow first, and the second premium would be to the sheep. No animal upon the farm can return so much value to the farmer on capital invested as the cow.—And if any man were told, for the first time, how much a well fed cow could earn in a year, he would consider the statement simply absurd. It is true the value is much enhanced by locality, for a cow near a great market, where milk can be sold at a high figure, will pay a higher per centage upon her value and keeping than one on the hills of Cattaraugus. Still, when compared with other branches of farming, the cow everywhere pays a wonderful profit upon the capital she represents.

The dairyman's success depends upon his cow. If he have a choice animal, that gives him a large quantity of milk, it is evident that for the food consumed he is getting a larger yield from the land than would be the case with an inferior one. But one thing is manifest in all the dairies which have been examined in this State (New York)—there is not a single one where the farmer makes the most judicious use of his cows. No one seems to be aware of the burthen which he places upon her, nor how much he loses by not aiding her to the best of his abilities in bearing it. The Israelites when in bondage, and compelled to find their own straw and deliver their regular tale of bricks, had not a harder task than is everywhere alotted to the patient, toiling cow.

To comprehend the extent of that task, let us examine, in the first place, the constituent elements of milk.

The question before us then, is, "What is milk?" The answer would depend upon locality, in a good degree, if left merely to the knowledge of the milkman, or the consumer. In New York, for instance, among the masses, it would be defined a bluish, whitish liquid, that has a tendency, when left at rest, to deposit a good deal more substance at the bottom than on the top. If the milkman were to define it, he would call it still-slops diluted and strained through the cow, and slightly improved by the addition of a little starch and water.

But if seen and tasted when drawn from the cow's udder up among the mountains of Delaware county, where the cow feeds upon the richest herbage, and drinks from the purest streams, it would be defined an opaque fluid, of a white color, sweet and agreeable to the taste, composed of a fatty substance representing butter, a caseous substance for cheese, and a watery residuum.

These constituents vary in different animals. The following table from the analysis of Henry and Chevallier, exhibits the milk of several animals in its ordinary state:

	Woman.	Cow.	Ass.	Goat.	Ewe.
Casein (cheese),	1.52	4.48	1.82	4.08	4.50
Butter,	3.55	3.13	0.11	3.32	4.20
Milk sugar,	6.50	4.77	6.08	5.28	5.00
Saline matter,	0.45	0.60	0.34	0.58	0.68
Water,	87.98	87.02	91·65	86.80	88.62
	100.00	100.00	100.00	100.00	100.00

In view of the large proportion of water which nature has put into the composition of milk, it would seem rather unfair to dilute it before it passes into the hands of the consumer.—Perhaps erroneous opinions are formed on this subject.

Haidlen gives the analysis of forty pounds of milk, reduced to dry material.

Dry material 5.20, of which was:	
Pure casein,	2.00
Butter,	1.25
Sugar,	1.75
Mineral matter,	1.20
	5.20

As the secretion of milk in the mammalia is designed by Nature for the reproduction and sustenance of the race, all the food consumed beyond that required for the sustenance of life in the parent, is absorbed in the milk, and that becomes rich, or poor, or scant, or abundant, just in proportion as the food is abundant and nutritious; or scant and of a poor quality. If, then, it be the object to make the cow the most useful, by the richness and abundance of her milk, she must be supplied with that kind of food which will furnish for use the elements found most abundant in her milk. She must have a certain amount of food to enable her to maintain her body in its normal state. It is claimed that three per cent. of her live weight daily will accomplish this. But to supply the drain upon her system, in the milk she is expected to furnish, she must have additional food—and it is in the power of the farmer to so adapt that food to her wants that she shall not only maintain herself in good condition of body, but maintain a large flow of milk, rich in the elements of butter and cheese.

Taste of Garlic in Milk.—In answer to a query in the *Farmer and Gardener* upon this subject, a correspondent says: "I do not know that I can prescribe the best method, but a very effectual remedy is found in saltpetre. Place a

lump, from the size of a pea to a hickory nut, in the bucket before commencing to milk. The saltpetre will thus become thoroughly dissolved and diffused through the milk before straining.

"It is advisable, where it can be done, to remove the cows from the garlicky pasture 5 or 6 hours before milking. A large portion of the garlic will be expelled in the exhalations, consequently less saltpetre will be required, and there will be less danger of the latter being detected on the taste of the butter. When everything is kept perfectly sweet and clean, there need be no fear of the butter tasting old, if churned several days before it is destined for use, provided it be immediately well worked.—Indeed, where it is necessary to use this salt as a corrective, the butter is improved by a week or two of age.

"Saltpetre will, to a considerable extent, also remove the taste of bitter weeds, turnips and rank clover from milk and butter. Whether it will interfere with the 'fine flavor' imparted to 'Philadelphia June butter' by the sweet-scented vernal grass, I have no means of knowing; but this I do know, that I have often sold butter treated in the above manner to some of your city connoisseurs, who invariably praised its good qualities, especially for keeping free from rancidity."

RAISING HORSES.

This, if not the most important, is one of the most important branches of stock raising.

Everybody likes to drive good horses, yet how few take much pains to raise them.

It costs little or no more to raise a good horse than a poor one. Any one who owns a good sound mare may raise good colts; they may not be Flora Temples, but if a little care is exercised, will be good, and may be excellent.

Henry William Herbert truly said when speaking of the horses of this country, that "If a horse will carry his rider without kicking him on his head, or draw him in his wagon or buggy without kicking it to shivers; if he will go off at a walk, increase his speed to the top of his gait, and stop again when pulled upon without running away; if he will hold back going down hill; if he will not balk going up hill; and more particularly if he will stand at a door without tying—he is held to be fully broken, and is willingly received, credited, and paid for as such."

I will suppose that the farmer owns a mare and wishes to raise colts. Too many will procure the services of the nearest or lowest priced (not cheapest) horse. This is a grand mistake with any kind of stock, and none more so than with the horse. The stallion should be chosen with regard to the mare, and kind of service desired of the offspring. If the colt is wanted for a common farm horse, for working and driving, then choose the horse accordingly; if the mare be narrow chested, then choose a wide chested horse; if she is too short legged, choose a long legged horse.

After selecting your horse, little can be done until the mare is nearly ready to foal. This is a critical period both for the mare and foal.—Moderate work will not injure either even within twelve hours of foaling time; but, unless it is absolutely necessary, it should be avoided for a day or two. As the time of foaling approaches, if the mare is worked, she should have more generous feed, for she has not only herself to support but also her colt.

In warm weather a cool, airy place is best; but in cold weather, warm shelter, but not close, should be provided. A little extra care and feed at this stage will be amply repaid. After this nature should be allowed to perform her task. As soon as the colt can stand, let it be handled and petted, and even haltered. It is much easier to handle now than when one or two years old. It is better to allow it to follow the mare when she is at slow work; the exercise will be of use to it, and it can obtain its food whenever it is hungry.

Let the colt be accustomed to have its feet raised and struck with a hammer or stone; let it be led about with a halter or by the forelock. At this age punishment should never be resorted to, but rewards should be given often.

This petting and handling could be continued until the colt is two or two and a half years old, then he may have the bits and surcingle. At three years old the gears may be put on him, a piece at a time, taking care never to frighten him with them. Before hitching him to the wagon, let him become accustomed to the gears and straps hanging about him. Let him smell everything about the wagon that he is afraid of. Place him alongside of a quiet horse, and if his former education has been properly conducted, there will be little or no trouble. Let him be petted and rewarded with a handful of corn or oats occasionally.

Patience and good temper are now very important items, and if the breaker lacks these two qualities, the colt stands a good chance of being spoiled. Learn him to walk fast, for whatever habit he now acquires will mostly be permanent, or very hard to eradicate.

Let him first draw the empty wagon down a slight grade; then up it; then with a load gradually increased; but care should be taken not to continue the first lesson too long, or he will become tired and worried.

Do not put him to hard work while young; a year's exemption from hard labor will add four or five to a horse's life.

After the colt is trained to single harness do not drive him at the top of his speed too often, and never with a woman in the carriage, who is likely to drive him within the next four or five years; for if she sees him at his best, that best he must do whenever she drives him! Or perhaps my meaning will be better shown from the following quotation, which though slightly exaggerated, is too true: "Let a woman—any woman—for they are all alike on this subject, and no one has any more sense than any other one—understand that Flora Temple had trotted her mile in 2.19¾, and let that woman have Flora to drive for a day, and she'd flog the life out of the gallant little bay mare, if she didn't keep up the same speed for 12 or 14 hours a

day." If she could not get a 2.40 go out of a horse, she would get a "three go." [What a slander! Mr. Harrow, you are too hard.—Ed.]

Some time since I was called by a neighbor to tell what was the matter with his colt; she would sometimes, in the evening more especially, hang her head and appear languid. He thought she wanted a dose of some kind of medicine, and if he had known what to give would have administered it. All that seemed to ail the colt was that like the Patriarch Isaac, she was meditating at eventide.

Moral—Don't dose a colt with medicine unless you know what is the matter—or that something is the matter, and oblige your friend,

Ger. Telegraph.] Spike Harrow, Esq.

LAMPAS IN HORSES.

Mr. Editor: Having read an article in your columns about the lampas in horses, and the writer wishing for further information, I thought I would give him all that I could.

This disease consists in swelling of the roof of the mouth, near the front teeth, and is sometimes higher than the teeth. It happens generally between the third and fifth year, and is supposed to prevent a colt from gathering his food with ease, so that on that account he falls off in feeding and consequently in flesh or condition. The usual remedy is to sear the parts next the teeth, with a piece of iron made for the purpose, or cut the parts until they bleed freely.

These remedies are still generally practiced, nor is it possible, I believe, for veterinary surgeons to prevent its being done. The lampas, as it is called, however, is not the cause of the colt's ceasing to feed well, and falling off in flesh; it depends upon his cutting the grinding teeth at the proper time; and if, instead of burning and cutting the lampas, as they term it, they would keep them entirely on bran mashes for a week, he would be able to eat his hay and corn with avidity; for the stomach, which always sympathises with the mouth in the painful periods of dentition, is quickly restored, when the power of mastication returns.

We often find, when the lampas is present, that the membrane of the mouth just within the corners of the lips, is so swollen as to get between the grinders, thus preventing the animal from feeding. When this is the case, it is commonly called bags or washes, and may be removed by swabbing the mouth with a weak solution of the sulphate of iron. This disease is often occasioned by the bearing rein being too tight.—[B. in *Germantown Telegraph.*

Epidemic among Stock.—We are informed by Mr. Robinett, who lives in the south-west part of the county, that during the last few weeks, various fatal and strange diseases have broken out among cattle, hogs, and chickens, of which a great many have died. He states that a curious and unknown disease has made its appearance among his and his neighbor's cattle, which affects their eyes so that they go stone blind. It first makes its appearance in the shape of very aggravated sore eyes, and reduces the animal very much in flesh until it finally becomes perfectly blind. This is a very strange disorder, and we do not recollect of ever hearing of its like. Mr. Robinett informs us that a splendid bull of his went blind from the above cause.

Among the hogs, the hog cholera has broken out with fearful fatality. Mr. R. says that one of his neighbors has lost very near a hundred head by this terrible destroyer. Also, chickens are dying off from the same disease. Let our farmers be on the look out for these destroyers and take steps to guard against their spreading. —[*Salem (Ill.) Advocate.*

Cure for Dog Distemper.

Ed. Valley Farmer: Some one inquired in some of the back numbers of your journal for a cure for this disease. I had a dog that had been sick for some three weeks. A neighbor said that it was the distemper, and advised me to give a teaspoonful of ground sunflower seed for three successive days. As I could not be at home, I gave him the three doses the same day. To my surprise, the next day, for the first time since he had been taken sick, he was out after rabbits with that animation and zest that a rat terrier alone can display. It was a perfect cure.

Fayette, Mo. H. L. B.

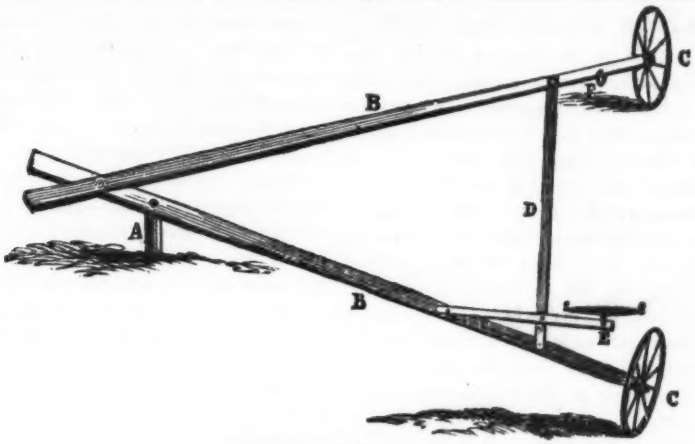
Feeding Swine.—Mr. Taggart, of Wayne Co. at the annual meeting of the Ohio State Board, said he was not in favor of feeding hogs long, to make them weigh large weight. He kept his in the clover field till the beginning of September; then, when the corn begins to harden, cuts it up, both ear and stalk, and feeds it to them. "One bushel of corn in September, will fatten more than one and a half in December." Mr. T. recommended killing by the 15th of November, as being the most profitable time, for then there has been little expenditure of carbon for the production of heat, when, if left for another month, the cold, wintry storms make this necessary.

A traveler, on a miserable lean steed was hailed by a Yankee, who was hoeing his pumpkins by the road side—

"Hallo, friend," said the farmer, "where are you bound?"

"I'm going to settle in the Western country," replied the man on the lean horse.

"Well, get off and straddle this 'ere pumpkin vine; it will grow and carry you faster than that 'ere beast."



BREAKING COLTS.

MESSRS. EDITORS: A little more than one year since, having three fine colts that were wholly untutored, I adopted a new expedient for bringing them into subjection, which succeeded to a charm. Several of my neighbors availed themselves of the privilege gratuitously offered them, by the use of my apparatus in breaking their colts, and in every case they were delighted with the ease, safety, and thorough success of the scheme. Last autumn, having bought another large and vigorous colt of three years past in age, and wishing to bring it under subjection, I resorted to the same method that was found so effectual last season, and which has been equally satisfactory, both to myself and my neighbors, who have either availed themselves of the use of the apparatus, or have witnessed its operation; and in compliance with their suggestion I send you a drawing of the run-round, now in rig in my yard for breaking colts. To the machine thus completed, I harness the colt, I care not how ugly or ungained, buckling the pole strap so short that he will have no slack harness; then, tying his halter to the cross-bar, I pull off his bridle and let him have a fair chance, and his own course. He never runs at first, for fear of the wheel before him, but alternately trots and stands still. After the colt has been harnessed an hour or so, I seat myself astride the rear pole at the point where the inner end of the bar supporting the whipple-tree is attached, when he generally starts off at a rapid speed; I retain my seat until the colt comes to a stand, which is always after he has been from six to twenty rounds.—I then feed him a handful of oats, and put a wisp of hay in the rope which confines the pole strap, and leave him to pursue his own course. He should be kept harnessed in this way through the day, being visited frequently with the oat-dish, and supplied with hay where he can help himself at will.

The second day let the colt be bridled, with leading lines attached, and fed a few oats as soon as harnessed, then left for some time to promenade at his leisure; then drove, and taught to start and stop at bidding. After being drilled in this way for half an hour, make fast one of the wheels to a post a little outside of the range, and leave him for an hour or more, thus teaching him to stand; keep him harnessed through the day, occasionally feeding, driving, backing, and teaching him to stop and stand still, but using no harsh measures, for none are needed. After three such days of training, I have always succeeded in making a colt completely manageable, and hesitate not to take my wife on board a cutter or wagon for a ride, having done so repeatedly. I consider the above method for breaking colts cheap, safe, expeditious and effectual, and those who have examined the affair, say that a colt broken to go in that machine will go anywhere.

Explanation of the Drawing—A, a post set firm in the ground, and rising three feet, with a shouldered three-inch round tenon or pivot at the top. B B, two straight, rough hard wood poles, thirty feet long, eight inches in diameter at the butt ends, and four inches in diameter at the tops. One of these poles is confined on the top of the post, six feet from the butt end, by a round mortice three and a half inches in diameter. The other pole is lapped into the first near their butt ends, made fast by locking and by a two-inch pin. C C, the hind wheels of a lumber wagon, fitted on the ends of the poles.—D, cross-bar, a rough pole twelve feet long, bolted at each end on the long poles, four feet from the wheel hubs. E, rough pole, bolted on one of the main poles and on the cross-bar, to support the whipple-tree. F, an auger hole bored through the forward pole, in which is fastened a rope for confining the pole-strap of the harness. PHINEAS FIELD.

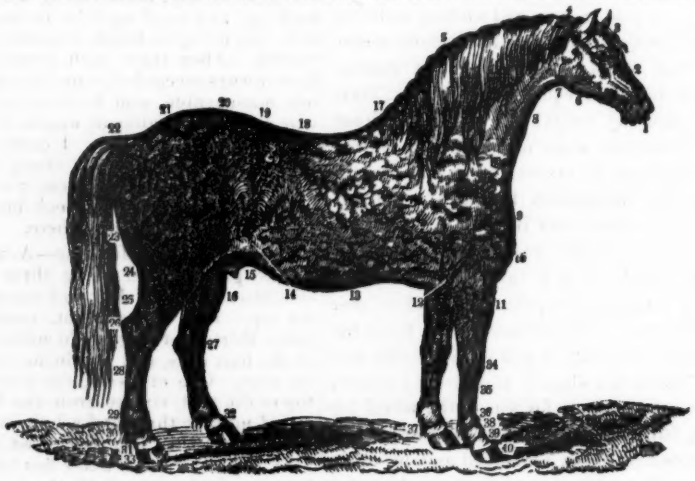
—[*Boston Cultivator.*

DURATION OF ANIMAL LIFE.

As all knowledge is obtained through the medium of experience, so is all happiness from attending to the laws of nature. The Creator has bestowed on man faculties to observe phenomena, to observe cause and effect; and he has constituted the external world to afford scope to these powers. Every living being has its use, and its powers are limited as well as the duration of its life. Man obviously stands pre-eminent among the sublunary objects, and is distinguished by remarkable endowments above all other terrestrial beings; and from divine authority we know that the extent of his days are numbered at three score and ten.—That this period is not definite, every day's experience proves; but beyond that average we know that the powers both of the body and the mind become enfeebled and require repose. The same remark applies to the purpose for which they are designed. That everything was created for the use, and to be under the dominion of man, is quite evident; but why the length of life alloted to one animal should be a day, and another sixty, seventy, and even a hundred years, is not quite so intelligible to the finite capacity of man. We measure time by the revolving of the earth on its axis, and by its course round the sun; but if time be measured by the duration of life, animals must have perceptions and faculties not understood; for it is quite evident that a moment to one creature is equal to years to another; why this should be, no doubt is wisely kept from our view. It is, however, curious to observe the difference in the average existence between animals with which we are familiar, and whose powers and habits are well known. The following table will show the average duration of animal life:

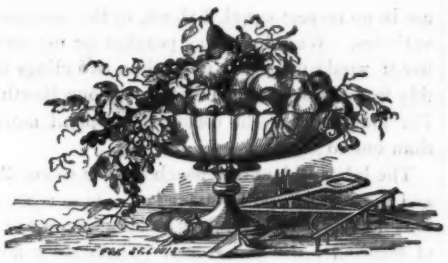
The horse lives from 8 to 32 years; ox 20, bull 15, cow 23, ass 33, mule 18, sheep 10, ram 15, dog from 14 to 25, swine 25, goat 8, cat 10, pigeon 8, dove 25, goose 58 to 109, raven 100, turtle and tortoise from 50 to 100.

Among the mysteries of nature, are the links that bear up the chain of existence, which in many instances are so minute as to be imperceptible to human sight; and yet we know it is ordained that one is called into existence at the expense of another, and that everything is adapted to the climate that gave it birth. Some are brought into life with the sun, and die at its decline; others live, perhaps, for a few days or weeks only, and yet they must all obey the laws of nature, which bid all to eat and be eaten in their turn. Each fulfills its destined office to check excess in the progress of life, and maintain the balance of creation.



Terms Denoting the External Parts of the Horse.

1. Muzzle.
2. Face.
3. Forehead.
4. Poll.
5. Crest.
6. Jowl.
7. Gullet.
8. Windpipe.
9. Point of Shoulder.
10. Breast or Bosom.
11. Arm.
12. Elbow.
13. Girth.
14. Flank.
15. Sheath.
16. Stifles.
17. Withers.
18. Back.
19. Loins.
20. Hip.
21. Croup.
22. Dock.
23. Quarter.
24. Thigh or Gaskin.
25. Hamstring.
26. Joint of the Hock.
27. Ham or Hock.
28. Common.
29. Fetlock.
30. Large Pastern.
31. Small Pastern.
32. Coronet.
33. Hoof.
34. Knee.
35. Common.
36. Fetlock.
37. Heel.
38. Large Pastern.
39. Small Pastern.
40. Hoof.



HORTICULTURAL.

[Written for the Valley Farmer.]

THE GRAPE CROP OF 1861.

This has been a strange season for vineyards, and one which awakened hopes of a return as rich as it was seldom seen; yet, in but few instances, will these hopes be fulfilled. And why so? Dear readers, this question is easily answered. It is because the Catawba, with all its faults, with all its diseases, is still our leading grape; because most of our old vineyards were planted with it, and are not as easily replaced with other varieties as some people suppose; and all because some people—nay, even a good many—although they have eyes in their head to all outward appearance at least, are yet blind to their own interest, and even pretend to be leaders of the blind. Now I do not pretend to be very sharp sighted; but when I see a Concord, a Cynthiana, a Norton's Virginia and Herbemont, with their leaves full and green, hiding and shading their full, nay superabundant, crop of perfectly ripened and colored fruit; and see a Catawba or Isabella, with not a leaf on it, the fruit of a dirty green, with half of the berries dropping off, I confess that *I see* a difference. And when I come to *tasting*, the difference is greater still. In the former, the rich, luscious, and full flavored juice; in the latter a juice which tastes like as if it would turn into vinegar, if it had strength enough; but as it has not, it tastes merely insipid sour, or sourly insipid; whichever you may like best. This is of course an extreme case, but I can tell you, nevertheless, that there are whole vineyards here with tens of thousands of pounds of grapes in them, that will not give more than a few hundred pounds of really ripe grapes. The cause of it is a disease of the leaf, which has occurred before, but never was so destructive as it has been this summer. It appeared in the form of a small white insect, which infested the under side of the leaves by millions, and fed on them. This was the first cause, and the leaves might have withstood it, but then came the scorching heat in July, with some sultry showers, a kind of weather which the Catawba cannot stand, and finished the job. I think out of 80,000 gallons of wine which may be made here this fall, hardly 25,000 will be a good saleable article. Those vineyards in which the early summer pruning was followed, suffered much less than where the Cincinnati plan was observed. My vineyard will perhaps ripen two-thirds—but they have all suffered. I regret to say that the Delaware has also suffered terribly, but this may not be of such frequent occurrence as in the Catawba. The truth must be told, and although I had almost unbounded faith that this universal favorite would prove all we had hoped, yet I confess that it is somewhat shaken. However, as it seemed and was so perfectly healthy last season, let us hope this will be of rare occurrence.

We suffered but little by the rot here—not enough to feel it much.

I will conclude by naming a few of the varieties that have escaped this disease unharmed and ripened their fruit perfectly:

Cynthiana, Arkansas, Concord, Norton's Virginia, Herbemont, North Carolina Seedling, Louisiana, Cunningham, Taylor's Bullitt, Northern Muscadine, Hartford Prolific, Blood's Black Alvers. These are all good and productive grapes, and can, I think, be recommended with safety. The Cassady, Diana, Rebecca, Brown, and Mead's Seedling, suffered but little.

Our apple, peach and pear crop was enormous. Never were finer pears, or more of them raised, than we have had this summer. I will mention, that a small tree of the Seckel variety had over four bushels of splendid pears; and several dwarfs, planted three years ago, had over half a peck each, besides making a full growth of wood.

GEORGE HUSMANN.

[Written for the Valley Farmer.]

HONOR TO WHOM HONOR IS DUE.—Last spring I ordered from Carew Sanders & Co. of the St. Louis Nursery, a small lot of Fruit Trees, and it affords me pleasure to say that it was the finest lot I ever saw from any nursery—and I have purchased from a good many. Several of my neighbors who are judges of what a tree should be, spoke of them in the highest terms. They were straight, well proportioned and of unequaled vigor. Some of the last year's growth were nearly 4 feet in hight, and ¾ of an inch in diameter. They were taken up and packed as such trees deserved, and what was equally gratifying, the bill was filled to the letter.

It is needless to add that they all lived, and are making a fine growth. H. L. Brown.

Fayette, Howard Co. Mo. Aug. 22, 1861.

[Written for the Valley Farmer.]

Calendar of Operations in the Vineyard.

BY GEORGE HUSMANN.

OCTOBER.

This month will finish the wine making. All the grapes which were not ripe enough last month, can be gathered as they ripen this month, but be sure to have them ripened thoroughly, if you want good, full flavored wine.

If there is any time to spare, the ground can be prepared for new plantations, as ground prepared in fall will be found to be much better adapted to planting in spring, than that which has been prepared in the latter part of winter or spring.

This is about all the vintner will have to do during October.

[Written for the Valley Farmer.]

PEACHES.

The peach crop this year has been enormously large. Nearly every tree large enough to bear has been overburdened with fruit. We have had a fine opportunity to observe and compare varieties, and to determine which are most valuable for market and the table. The great superiority of budded fruit over seedlings was never more apparent. With the exception of perhaps one tree in twenty, the natural fruit has been small, dry, and tasteless, or bitter, or too acid. Most of them, too, ripen at the hight of the peach season, when none but first-rate peaches will bring a remunerative price. Early peaches, and good late ones, which are fit for preserving, never fail to bring good prices. At the hight of the season, even this year, fine peaches have brought a fair paying price.

Acres of seedling peach trees, within the circle of my observation, are now breaking down with their load of fruit, and the owners are using it only or chiefly to feed hogs and for drying. It will not sell. Fifty trees of first-rate varieties are much more valuable than two hundred trees of seedlings as they ordinarily run. In fact, I would not allow a man to plant two hundred seedling trees for me if he would do it gratis. I notice that a very large portion of the seedlings, and much too large a portion of the budded varieties within my observation, are clingstones. They will not sell for half as much as the freestones, except, perhaps, some of the very large late clings. For eating fresh, they are in no respect equal, I think, to the freestone varieties. Were I planting peaches for my own use, I would not plant more than two clings to fifty freestones—one Old Mixon and one Heath. For market, I would certainly not plant more than one to ten.

The labor of budding peach trees is so small, and the cost of buying budded trees is so trifling that no one should think of raising an orchard of seedlings: it will not pay. There are a few good varieties which will generally reproduce themselves, or very nearly, from the seed; for example, the Heath Cling, Crawford's Early and Late, and most of the yellow fleshed varieties. It may do very well to raise the desired number of such varieties from the seed without budding.

It would be a favor to very many readers if those who have had good opportunities for judging this year, would communicate the results of their observations in regard to the peculiar merits of varieties in this latitude, particularly the very early and very late varieties. I will name a few of the most valuable varieties which I have noticed: the very earliest, I did not see enough of to judge.

Haine's Early, in my neighborhood, bore very abundantly. Fruit medium size, very juicy, sweet, and excellent. Ripened from the first to the fifteenth of August. Sold at an average price of about $1.50 per basket.

Large Early York, followed closely after the above in ripening. Equally good, and sold for about the same price.

Yellow Rareripe.—This is altogether one of the most valuable varieties that I have seen.—The trees are moderate growers, bore full, but not too full. Fruit larger than the two preceding, and of fine appearance, being of a bright orange color with a rich red cheek; flesh, deep orange yellow, juicy, sweet, and rich. It is not equally juicy with the preceding varieties, but seems to be richer, more vinous and substantial. The hight of its season was twentieth of August. One of its most valuable characteristics, as I have observed it here, is its freedom from insects. While other varieties in adjoining rows were to a considerable extent worm eaten, scarcely one of the Yellow Rareripes was similarly affected. Its downy character is perhaps a preventive.

President.—Ripened Sep. 1st; very large; skin white, with a slight blush in the sun; flesh white, slightly red at the stone; very sweet, melting, and delicious. Some samples had a slight bitterness at the stone.

Late Red Rareripe.—Ripened a little later than the above, and more gradually. The President is now gone, while this is about two-thirds gone. It is large and showy. Trees bear very abundantly.

Much confusion exists in regard to varieties, trees not proving true to name as purchased.—Two orchards near me, the trees of which came from Lockport, N. Y., are glaring examples of this character. L. D. Morse.

Allenton, Mo. Sep. 10, 1861.

HOW TO MAKE WINE.

To the Sec. of the St. Louis Horticultural Society:

As the time of the vintage is near, and there are many persons having small quantities of grapes who would like to make them into wine, if acquainted with the process, some of whom have requested me to give directions for this purpose, I herewith submit for their benefit, as well as wine growers in general, the following process of making wine from the Catawba and other grapes, which, if carefully followed will give the best results:

The first thing is to have good vessels, in proper order, to contain the wine, the larger the better, provided they are always full. New casks of oak are best for new wine; next, casks which have recently had similar wine in them, and are, therefore, called "wine green;" and, lastly, spirit casks.

New casks should be soaked several days before using, first with hot water to which a double handfull of lime is added to neutralize the acid of the wood and otherwise sweeten the cask; other casks should be thoroughly rinsed with hot and afterwards with cold water.

Before using, a sulphur match (formed by drawing a strip of cotton cloth about an inch wide through melted sulphur) about one inch square, or a piece of solid sulphur the size of a pea, should be burned in each barrel of forty gallons, larger casks in proportion.

The grapes should be gathered when thoroughly ripe, which, with the Catawba in this latitude, is from the 15th of September to the 1st of October, and on a fair day.

All unripe, dry, and rotten berries, should be picked from the bunch, and only the perfect ones submitted to pressure. Some separate the berries from the stems, but this is useless labor, as nothing is extracted from the stems by pressure. They may either be pressed whole—which method I prefer—or previously mashed, as is usual, in a tub with a wooden pounder. If the latter, they should be put to press at once lest fermentation begin, the coloring matter of the skin be dissolved, and the wine have too much color.

Some prefer to make high colored wines under the mistaken notion that they keep better, and for this purpose allow their grapes, after being mashed, to remain and ferment on the skins, twelve, twenty-four, and even forty-eight hours; but this is a bad practice, and always injurious to the wine, for all experience teaches us that the best Catawba wine is without color.

Press until the juice shows color, and put in one cask for first quality; continue to press, and put the residue in another cask or vessel for second quality wine. Then raise the screw and stir up the mashed grapes, and press again in like manner. Where the quantity is large, say sixty or eighty gallons, two qualities of wine should always thus be made, but with small quantities it may all be put in one vessel.

When the casks are nearly full—within two inches of the bung—they should be transferred to a celler of ordinary temperature, say from 60 to 75° Fahrenheit, fixed in their proper places, twelve or fifteen inches from the floor, and their bungs taken out. Fermentation will soon begin, and the froth escape from the bung. This should be suffered to flow out for about twenty-four hours, carrying with it the grosser part of the lees. A bung, provided with a piece of small lead or other pipe about a foot long, should be then inserted. One end of this pipe, which should be bent into the shape of a semi-circle, communicates with the barrel, and the other end should dip into a tin cup filled with water, resting on the barrel, the object being to allow the escape of gas, and prevent the contact of atmospheric air. Most wine, however, is fermented without this apparatus, the bung only being laid lightly in its place.

When fermentation is nearly over, which may be known by the gas ceasing to escape from the leaden pipe, or the hissing noise that accompanies it is no longer heard on applying the ear to the bung, the latter is driven tight, and a gimblet hole furnished with a spile made alongside. The spile should be drawn every two or three days, until the gas ceases to accumulate, after which the vessel should be filled with some wine reserved for the purpose, and both bung and spile be driven tight, and the wine allowed to remain undisturbed until near Christmas.

About this time it should be examined, and if found to be clear, draw off from the lees or sediment into another cask; or returned to the

same cask, well rinsed and fumigated with sulphur as at first.

The wine is now finished and may be bottled if desired in May or June, but is better if kept in wood during summer (when it will undergo another slight fermentation), and bottled in the fall, one year after the vintage.

Wm. Glasgow, Jr.

[Reported for the Valley Farmer.]

Meramec Horticultural Society.

Near Allenton, Sep. 5th, 1861.

The thirty-third monthly meeting was held in the house of Mr. Wm. Harris. The President in the Chair.

The minutes of the former meeting were read; whereupon the Secretary remarked that the section of the minutes upon the grape rot were not prepared by him, and that the statements therein made did not properly express his views.

The Executive Committee proposed the continuance of the same subject for the next meeting, viz: "The Articles on the Table before the Society." Adopted.

The Fruit Committee find upon the tables the following articles:

Grapes—Mr. T. R. Allen presents very fine specimens of Isabella but little thinned by the rot; berries large and well matured. By Mr. J. S. Seymour, the Concord and Diana, in a remarkably high degree of perfection; the Concord perhaps as fine as it ever gets to be; also, fair specimens of Catawba but little affected with rot. By Mr. C. Paffrath, fine specimens of Catawba from his young vineyard, from year old roots planted out a year ago last spring; also, bunches from his older vines on trellis; berries smaller and more than half gone with rot. By Wm. Muir, bunches of Hartford Prolific; did not rot; is a fair table grape, and must become popular and valuable as a market grape, from the fact of its early ripening and hanging long on the vine; was ripe on the 10th of August, and are still firm on the bunch and in a fine state of perfection. They are the earliest ripening grape we are acquainted with.

Plums—By Mr. C. Paffrath, a fine plate of German Prunes, not quite so large as usual owing to the tree being so very full. Also, the Orange or the Washington (we cannot decide which it is), measuring two inches in its transverse diameter. By Dr. McPherson, a branch of the Lombard, fully ripe; they hang on well, and sell about as readily in the market as any of the gages; very prolific, and resist well the attacks of the curculio.

Peaches—By Mr. Allen, good specimens of the Late Red Rareripe, Columbia and President. By Mr. Wm. Harris, Crawford's Late, Ward's Late Free, Late Red Rareripe, and two varieties of clings not known. By Mr. Muir, Druid Hill, Tippecanoe, Smock's Free, Snow, and Blood Free. By Dr. McPherson, good specimens of Crawford's Late, Late Red Rareripe, and a large fine cling supposed to be a seedling; a very fine peach. By Mr. G. M. Moore, the finest display on the table, Old Newington, Late Admirable, Blood Cling, and two other varieties.

Pears—By Mr. J. S. Seymour, fine specimens of Bartlett in high perfection; Belle Lucrative, equally perfect. By Dr. McPherson, Louise Bonne de Jersey, good; Beurre Gobault, and Flemish Beauty.

Apples—Of these we cannot undertake to mention all the varieties, having fine specimens of nearly all the varieties in season. The Fall Pippin, Scollop Gilliflower, Vandevere, and several others, being very large, fine and perfect.

Raspberries—By Dr. J. B. H. Beale, a fine branch of Black Raspberries. A. W. McPherson, Ch.

The Flower Committee find on the table a fine bouquet by Mrs. Dr. Beale, composed of some of the newest varieties; and a good assortment of Verbenas, by Mrs. J. S. Seymour. W. Muir, Ch.

The Vegetable Committee find good specimens of the White Yam and Pale Red Sweet Potato, by Dr. McPherson; and Large White Radish, measuring over 15 inches in length and 4 inches in diameter, by Dr. J. B. H. Beale. O. Kittredge, Ch.

The meeting adjourned for dinner, after which the President called Vice-President Beale to the Chair.

Dr. McPherson suggested the importance of attaching the names, as far as known, to the fruit exhibited.

Dr. Morse felt the importance of this, and urged the propriety of bringing nothing but specimens of fruit in season, unless for some special reason. He held up a peach found in the orchard of Dr. McPherson, supposed to be the Yellow Rareripe; rather past its season, but of value from its almost entire freedom from insects; its very downy surface seeming to protect it; of fine orange yellow color and red cheek; average size, larger than this; flesh, deep yellow; slightly red at the stone; juicy and of fine flavor.

Dr. McPherson thinks this peach indispensable to keep up the succession. These 3 trees were planted out among a lot of Old Mixon free, among which they had got by some mistake. The cling exhibited, called the Premium Peach, has two objections, seed large and red at the stone. It is juicy and sweet; looks fine; sells well from its appearance, and is most certainly a seedling. Thinks Crawford's Late not so desirable as some others on account of its time of ripening; coming into market at the hight of the season, it comes into competition with all sorts, and does not bring the price its high qualities indicate. Were it later, it would be more valuable.

Mr. T. R. Allen called attention to a grape he purchased from a tree peddler, as the White Ortizby for $1.50, which proves to be a mean black grape; along with this, he purchased a Red and a Blue Burgundy at the same rate, and they all seem identical; and a Concord for $2 or $3, which turns out the common Muscadine of the woods of Virginia. His Isabella had probably five bushels of fruit, and about one-half rotted in a few days. He has the true Concord, but only a few bunches. His peach, the President, which he got from Mr. Mallinkrodt, is truly excellent; as also the Late Red Rareripe from the same. He purchased from Geo. Greb, an old German, some peach trees of great celebrity, at fifty cents each, which prove to be Late Red Rareripe.

Mr. J. S. Seymour said, his Concord vines had done very well; were planted two years ago; trained on a trellis, each arm being five feet in length. One vine had borne eighteen pounds of perfect fruit, and the average of thirty-two vines gave ten pounds per vine; the large berried bunches were ringed. The Diana had but little rot; and it has this peculiarity, that the smallest berries are as ripe and fine as the large ones. In his pears he finds about two weeks difference between the ripening of the Bartlett and Belle Lucrative.

Mr. C. Paffrath finds the German Prune to bear every year heavy crops; the crop this year is enormous, and they dry well. The Yellow Plum was brought from France by a man who gave it to Mr. Richter, from whom Mr. Braches obtained it—this may be the reason it is so hard to find its name.

The Secretary said that the Hartford Prolific grapes were grown from vines grafted a year ago last spring; they were ripe on the 10th of August; did not drop a single berry; but one berry had symptoms of rot in eighteen bunches; they were still in good condition on the vine; 3 bunches ripened perfectly on the ground from layered wood; and the bunch all covered with earth, ripened in the ground, and had to be dug up like potatoes—and no berries came off, nor did they rot.

The President announced the next meeting to be held at the house of Mr. T. R. Allen, Allenton, on the first Thursday in Oct. Adjourned. Wm. Muir, Sec.

[Written for the Valley Farmer.]

Corn, as a Shade for Fruit Trees and Plants.

About a year ago, I think, Mr. Carew Sanders mentioned in the *Valley Farmer*, having planted corn between the rows of newly-planted strawberries, for the purpose of shade, and was well pleased with the result. The same season I planted about three-fourths of an acre of strawberries. On about one-fourth of the patch, the highest and driest part, I planted corn between the rows of strawberries. The season was one of protracted and severe drouth. On that portion planted with corn, I had last spring a very fair stand of plants, while on the remainder of the patch more than half the plants were killed.

Last spring I planted about half an acre of strawberries. After the second hoeing, May 23d, I planted corn between all the rows, using a variety called Early Six Weeks. I planted also one hundred Concord grape vines, between the rows of which I planted, May 25th, Canada or Eight-Rowed Yellow corn. August 25th, these varieties of corn were well ripened and ready for cutting up. The drouth this year was of short duration, about four weeks, but unusually severe owing to the intensely hot weather. My strawberries suffered to some extent, but comparatively little. Of my grapes, two or three were injured, but not more than one, I think, will be lost, while the year before I lost at least 20 per cent., not shaded by corn. On a little more than half of my patch of newly planted raspberries, I planted King Philip corn between the rows. None of that portion of the raspberries were injured, about half the rest died. My dwarf apple trees planted last spring on a gravelly soil with south-western exposure, have done much better where they were shaded by small corn than where the ground was planted to potatoes. The leaves of some unshaded, dried up and dropped off, but have put out new leaves since the raine.

From my experience and observation thus far, I am led to the conviction that, for this climate, the cultivation of corn among fruit trees, grape vines, raspberries, strawberries, etc., the first summer after they are set out, is a practice of very great value. The intense heat of the sun in this latitude during the month of July and the forepart of August, especially if accompanied by drouth, is very severe on newly planted fruits, and some protection is greatly needed. Corn will afford suitable protection, will require the necessary cultivation of the ground, and at the same time yield a paying return for the labor. I would, however, recommend using, for such purpose, only the small varieties such as I have named. They grow to the hight of about six feet and mature early, while the large varieties grow to twice that hight, and require a longer time to mature, making too much shade and for too long a time. The small varieties may be planted late, allowing to the trees or plants the full benefit of the most important growing season of spring and early summer, and are ready for removal by the time the worst heat of August is past. The seed of the Early Six Weeks I received, under that name, from a lady, about five years ago.—It has proved the earliest variety that I have seen, and yields very well. It is of a white, rather flinty character, and many of the grains (about one-fourth) are either blue or violet colored. The Canada and King Philip are very good small varieties, yielding a grain of the richest character. The White and Yellow Dutton of New York, would probably be better varieties than either of the above for extensive planting, yielding better and maturing about as early. In fact, I incline to the belief that they would be better than our large varieties for general cultivation. More than twice the number of stalks may be grown to the acre, making better fodder, and yielding a grain containing more oil, and greatly superior for all purposes, except it may be for making starch.

L. D. Morse.

[Written for the Valley Farmer.]

Monthly Notes for the Garden and Orchard.

By Carew Sanders.

THE FLOWER GARDEN.

No time should be lost in taking up and potting those tender plants that are intended to be kept over winter. We are liable to frosts any time after the last of September, and this should be attended to the very first week in October, if not done before. Begin with the most tender and delicate first—the Heliotropes, Salvias, Geraniums, &c. It is best to have these up before any frost has touched them, though if but slightly frosted they will not be injured.—Trim off a portion of the tops of all plants taken up; the roots also; and replace into as small a pot as the roots can be got into. Stand the plants in a cold frame, keep them moist overhead, by sprinkling frequently. Shade the glass, and keep it nearly closed for a week or two, until the plants root in their new pots, after which more air and less water may be given, and so prepare them for winter.

It often happens that we get a few frosts early, and afterwards several weeks of fine, mild weather, during which many tender things that have escaped the frost, bloom out with a beauty not surpassed all the season before. A little trouble may often save fine showy, fall-blooming plants, quite a while longer, and well repay their owners for taking it.

Frosts can generally be apprehended by a general lowness of temperature, sometimes for several days previous. If, then, a few sticks are stuck around a large plant or plants, and a sheet, mat, sack, or any light thing thrown over, or even a few leafy branches, there may be often preserved fine plants of Dahlias, Salvias, Chrysanthemums, &c., that would otherwise have been cut off just as they were attaining their highest beauty.

Don't forget that this is the best month to plant out hardy bulbs—Tulips, Hyacinths, Crocus, Narcissus, &c.

COLD PITS—THEIR CONSTRUCTION.

Some time since, a correspondent requested us to give some directions for the construction of cold pits—their season of use being now at hand, we endeavor to comply.

A cold pit, as its name implies, is a structure sunk in the ground, in which half hardy plants are kept over winter, without the aid of fire-heat.

Select a dry, sheltered situation, and dig out a pit the size you may require, three to five feet deep; the size can be made to accommodate your sash—though the most convenient size of sash is 3½ feet by 6. A frame for four sash would require a pit 6x14—a convenient size, and large enough for all ordinary purposes, though it may be increased to any size, by simply extending it in length.

Scantling posts should be set in all round, which may rise a foot above the level in front, and two feet at the back—this will give the slope of the sash; boards must be nailed on the inside of the posts, from bottom to top, which will leave a space between them and the bank, that may be filled up with saw-dust or tan; the earth thrown out of the pit may be used to bank up to the top on the outside of the frame, back, front, and ends, making a broad, sloping bank, running off to nothing; if this is nicely sodded, it will keep it in place, and bear treading on without injury. No water must be allowed to stand in the bottom of the pit, and if necessary a drain must be laid from it to carry it off. A layer of small stone at the bottom, and a foot of tan-bark on top of it, will secure dryness, warmth, and drainage.

On this, such tall plants as Oleanders, Roses, Lauristinus, and other tall plants that retain their foliage, but require protection, may be placed; but for low, small plants, a stage or shelving should be made from front to back, about 18 inches from the glass, this will do for Verbenas, Geraniums, Daisies, Pansies, and such other dwarf plants; while below the stage may be kept Salvias, Lemon Verbenas, Fuchsias, and such like plants.

The plants to be kept over winter, should be potted early, so as to be well established: that is, have got well rooted in the pots, after which as much air as possible should be given them, in order to harden them for the winter; and when once in their winter quarters, they should be kept as dry as possible, just enough water given to prevent them from wilting, and as little drip on the foliage and around the pit allowed as can be.

Every advantage of mild weather must be taken to air the pit and plants, and thick straw mats must be employed to cover the glass during frosty weather, to be increased by straw or litter during extra frosts. If the plants are dry and dormant, as they should be, a week or two's confinement from light and air will not injure them, as in the case of a heavy snow covering the pit it may be left on for some time without injury.

If any frost should get in, leave the covering on until all is thawed out.

For exposure, we prefer an eastern one, as the morning sun will earlier thaw out the covering or a slight frost inside, and shines more obliquely on the glass at noon than a southern exposure.

Of course, many modifications of this pit may be made, if desired, to suit circumstances. It may be larger or smaller; the walls may be built of brick or stone, if permanency is required; it may be built higher out of ground, or wholly below ground; deeper or shallower, as the case may require.

A foot of soil on a bed of tan-bark; spent dung, &c. would make it a good place to winter Cabbage, Cauliflower, or Lettuce plants in, and a host of other uses which ingenuity might suggest.

FALL PLANTING.

We are not strong advocates for fall planting in this region, mainly because the soil everywhere is of that tenacious character that cannot resist *heaving*, whenever circumstances are ever so little favorable to it: that is, the ground gets saturated or full of water after continued

rains; much remains on the surface; freezing follows, a hot sun, and thawing succeeds, and *heaving out* is the consequence; and this process goes steadily on, as long as moisture on the surface, nightly freezing, and daily thawing lasts—generally all the winter with us.

The effects of frost acting upon a wet soil is very powerful; we have seen it heave out large stakes, a wet mark left showing, each day, how much was raised—generally from an eighth to a quarter of an inch; and newly planted trees, and all plants that have shallow roots, or a feeble hold of the soil, get served in the same way, and a straining and rupture of the fibres must necessarily be the consequence, besides the loosening of the whole plant, exposure of part of the roots, &c.; much injury must naturally accrue to plants from that, and it should be avoided if possible. Newly planted trees would be particularly subject to it, which if they had but one year's good hold, might be able to resist it.

In soils or situations where there is no danger from heaving out, we can confidently recommend fall planting for all *hardy* trees; but it is unquestionably best to be done early. In trees taken up early in the fall, the roots will heal over, where they have been pared off, and even emit new roots; though scarcely time enough can elapse for these new roots to get brown and firm, hence are easily injured; but, if preserved over winter without much injury, they must be in a better condition to start vigorously and early the following spring.

On this subject, Mr. Meehan, of the *Gardener's Monthly*, has the following:

"As the planting season arrives, it is as well to repeat what we have often remarked, that the relative advantages of spring and fall planting are about evenly balanced.

"Failures follow all seasons. *How* to plant, is of far more importance than *when* to plant; and the selection of the stock to plant, of far more importance than the time when it is done. A tree that has been once or twice before transplanted, and again carefully and intelligently taken up, may be successfully removed at either planting season, with the odds of perhaps one hundred to five in its favor. But a tree never before transplanted—such, in fact, as a tree from the woods, or left standing in the nursery from the seed-bed—is very risky at any time, and depends rather on the weather following transplanting for the first few weeks, for any probability of success. In selecting trees for planting, then, be very particular to ascertain that they have an abundance of fibrous roots, and are carefully removed. In this region, we would plant evergreens at once, after or in prospect of the first good rain. Deciduous trees we would plant just before the final fall of the leaf, shortening off the ends of those shoots that were not quite mature. After the 15th of October we would not plant evergreens; nor deciduous trees after the 1st of November. Early, or not at all, should be the motto."

THE CLIMATE OF KENTUCKY ON THE CULTURE OF FRUIT.

In stating the effects of climate upon fruit culture, it may be premised that it is not always intensity of cold which imparts to the weather power to kill the fruit bud or injure the parent tree. In regard to the cherry, for example, if the bud is perfectly dormant, and has made no swell since the fall of the leaf in whose axil it grew, no degree of cold yet experienced in Kentucky would be likely to harm the fruitlets; yet in March, when the fruit-buds were swelled and the sap had commenced an active flow, I have seen the most disastrous effects both to fruit bud and tree follow a freeze of 14° above zero; and still later, when the bloom has fully expanded, 29° above zero is fatal to the cherry, although the peach and some other fruits will bear cold something greater. Neither the peach, apple, pear, nor grape, seems capable of bearing without injury so intense a degree of cold as the cherry, but they are all alike in this, that the greater the development of the bud, the less the degree of cold they can stand without injury.

A fickle climate like Kentucky, therefore, endangers the life of the fruit crop in two principal modes: First, a few genial showers and warm days in autumn or early winter may give such a start to the fruit bud as to increase greatly its susceptibility to harm by subsequent intense cold; or, secondly, a warm spell in spring may bring the buds into flowers before the frosts of the season are over. Within twenty years the peach crop has been four times winter killed, six times killed in April or May, and we have enjoyed ten crops. Of the crops winter killed, those of 1856 and '57 were subjected to a degree of cold believed to be fatal in all localities. Of those killed in the spring, about half perished at a temperature ranging from 1 to 3° below 29 (which latter temperature does hurt the peach). Only one crop, that of 1845 was killed by a freeze running so much below 29 as 8°.

Taking these notes of the past as indications of what may be expected in the future, it would seem that the disadvantages of climate in Kentucky are so great that the fruit grower trusting to chance can only hope to enjoy a crop once in two years. He that would do better than this must avail himself of means either to check an untimely growth of the fruit bud or to moderate the degree of cold to which the bud is exposed. This is plain, if what I have already stated be entitled to any force.

I know of but two ways in which anything efficient and practical can be done toward checking the untimely swell of the fruit bud.—The one is to secure the existence of a healthy system of leaves up to the coming of hard frosts in September, thereby avoiding a premature

rest in the current year's circulation of sap, as this state of rest precedes the swell of next year's bud. The other method of checking an untimely swell of the fruit bud is to select an elevated site for the orchard. It would require warmer weather and a longer continuation of it to excite growth on the hills than upon the plains. The most reliable means for securing a healthy system of leaves I take to be planting in a soil naturally dry or rendered so by draining.

It appears to me that any attempt on the part of man to soften the vigor of one of those cold snaps in winter, when the thermometer sinks below zero down into the twenties, and when fire itself in the open air seems cooped up in frost and incapable of shedding warmth, would be vain and peurile. No other palliatives in a crisis like this can exercise a beneficial influence save only those tending to retard the swell of the fruit bud and fit it for enduring greater cold without harm.

With spring frosts it is not so. The temperature generally sinks but a few degrees below the killing point, sometimes only once or twice in twenty years so low as 7 or 8° below the killing point. This modification is so slight that I think it may be considered controllable.—Both theory and observation show us that elevated sites can borrow as much heat from the surrounding and superabundant air as will compensate for the waste by radiation, and that with moderate care in treatment there need be no loss of fruit crops except during winters intensely cold as that of 1857. But, as every one anxious to enjoy the luxury of good fruit cannot go to the mountains to grow it, I propose to say something of what may be done even on the plains in protecting fruit from spring frosts by artificial heat.

Everybody, no doubt, at one time or other, has heard that peach crops contiguous to large deadenings on fire or to burning log-heaps, have been protected from frost when winds have carried the smoke over and through the orchard. This process is but softening the temperature by mingling artificial heat with the cold air: and, leaving the cost and details for another article, I propose to offer a few hints, resulting from practice, as to the efficiency of preserving the fruit crop from spring frosts by artificial heat.

The apricot blooms so early that we rarely have a season in which the crop would not be affected more or less seriously by frost, and for several years I have protected portions of my crop by the application of artificial means—sometimes placing warm water under the trees, but generally resorting to small fires.

The fuels tried have been cobs, sawdust, wood and stone coal. In no instance has a failure occurred unless the fires had been neglected too long (and there is much danger of the fires getting too low when cobs or other light fuel is used). I do not know that a better idea could be given to the orchardist of what he dare undertake and yet hope for success, than my experience of a night in March last. On the night of the 20th of that month, some of my choice apricots were in full bloom. In the morning of that day the ground was covered with snow, which melted off in the course of the afternoon, but left the air so chilly that we were compelled to light the fires at 9 o'clock, fully four hours sooner than usual. Shortly after 9 o'clock it clouded up and commenced snowing, and we hopefully continued to fire till near 1 o'clock, knowing that temperature changes but little in cloudy weather; but about 1 o'clock the clouds disappeared, leaving the thermometer at a killing temperature with five hours to sink lower—the ground covered with snow, a condition above all others calculated to produce a rapid increase of cold. More because I hated to give up than because I expected to do good, the fires were kept up all night and next day.—Rather as a matter of astonishment than expectation, I found that, while the thermometer had sunk to 18° above zero, and the white petals had been as completely changed in consistency and color as though they had been dipped in boiling ley, a large portion of the fruitlets were unharmed. Y. —[*Louisville Journal.*

CULTIVATION OF THE QUINCE.

Why is the quince bush so generally condemned to some out-of-the-way corner in the back-yard, where old shoes, broken crockery, and other household rubbish are thrown? When properly cared for, it is a beautiful ornamental shrub, with blossoms superior to those of many a prized foreigner; and its habit of growth makes it an admirable connecting link between the smaller shrubs and the standard trees.—What more beautiful sight in autumn than its bended limbs loaded with golden fruit? And what housekeeper thinks her winter stores complete without quince jelly, marmalade, or the fruit preserved plain? The treatment of the bush has been shabby, and very often it has come into disfavor because it did not repay neglect with a fine yield of smooth, handsome quinces. But it responds well to generous culture, and fruit growers have found it a profitable crop for market.

The quince should have a rich, deep, mellow soil. Although the roots spread near the surface, depth of soil is needed to guard against drouth, to which the tree is very sensitive.—The apple quince is most prolific, and the fruit is generally preferred to other varieties. Deep cultivation, such as is required for the standard pear, will not do for the quince, because of the shallow depth at which the roots grow. A light hoeing, and mulching with tan bark, leaves, straw, or other suitable material, must be depended on to keep down weeds and supply moisture. An annual dressing of the surface with salt is generally recommended, but respecting the utility of this we have some doubts.—Little pruning is needed; only enough to clear out suckers and sprouts, and prevent robbing of the branches. The apple tree borer often attacks the trunk, and the same precaution is necessary for prevention as in the case of the apple tree.

The quince is easily propagated by cuttings or layers. Seedlings are not certain to be true to kind, and it is therefore preferable to procure stock from a growing tree, if rooted plants of known variety cannot be obtained.

[Written for the Valley Farmer.]

THE AUTUMN LEAVES.

What makes the hue of the autumn leaves?
  Well, tame thy bird-like glee,
And chain thy bounding footsteps, child,
And listen awhile to the legend wild,
  Which I will tell to thee.

The Indians say, that long, long since,
  (Ere our sires had brought their band,)
Their forefathers came o'er the Western sea,
And they found a nation, stern, wise, and free,
  And they slew them, and took their land.

And oft as that season returns again—
  So their simple faith believes—
When the moon comes that lighteth the hunter's chase,
Then the bright red blood of their murdered race
  Springs up in the autumn leaves.

But a poet hath written a gentler creed:
  List, love, and you shall know;
For his sketches are "Pencillings," bright and bold,
Like the fairy tales of the times of old,
  Which I read so long ago.

He says that the rainbows of myriad hues
  Are laced in the tree tops high;
That the sunsets have come in the summer's track,
And poured their full splendor of radiance back
  In a robe of gorgeous dye;

That the burning gems which lie hid beneath,
  In their dark and earth-bound shrine,
Have melted and mounted from root to crest,
Till the forest in princely style is drest
  With the riches of the mine.

But the sweetest reason of all, I think,
  Is this—which a lesson breathes—
That the charm which lendeth the woods their flush,
Is the frost-kiss, spreading a crimson blush
  O'er the modest autumn leaves.

[Written for the Valley Farmer.]

HUMAN NATURE.

We are told to look within ourselves for a knowledge of human nature. This is true only so far as we are like others. For, in whatever we differ, we must look elsewhere for our knowledge. If I have peculiarities, I must not consider others as having the same *because* I have them. This is a common error. We are different, but — understand — only in details or minutiæ. The general principles of human nature are the same in all men and in all ages.—This distinction should always be borne in mind. We differ in particulars; not in generals. For instance, we all love and hate—love ease, love novelty, love pleasure, and hate pain; hate the odious. The principle of patriotism is implanted in all. How we doat upon a hero, all of us! How we hate a coward! We love money, and hate poverty. We love honor, love to be well spoken of, and hate derision.—These are principles which belong to mankind in general. Then we have the human form, intelligence, which distinguishes us from the brute. All this, summed up, is man. Yet there are some things not possessed by all; and on this depends the variety of human character which so delights the sages. Thus, there is difference of features. By this difference we know one person from another. Difference in size, proportion, complexion. One individual has different manners. One is slow, the other active; one slow to anger, patient—the other impulsive, quick to act at all times. One person cheats, another is honest. These are differences. Perhaps no one is better aware of the diversities of character, than the lover, the *roue* of society. He will tell you one maiden is shy—he finds many such, especially young girls; another is forward, seeming without restraint, bold; another is distant, evidently cold—yet the warmest heart is beating there. Here is one so frank, so confiding, it almost startles.—The same deep vein of passionate love—varying in degree—is common to all. Thus we have two great phases exhibited in man: general principles and peculiarities. We all understand the first. The second is the great field for speculation. To understand this, we must leave the contemplation of ourselves, and go forth among mankind. And—what is an important point, a great vital fact—we must, each, look for ourselves. But little can be taught here by others; for this is a branch of isolated cases, local instances. 'Tis true we have a very vivid picture of the two phases in Shakespeare. Yet our knowledge of human nature is not taught us by Shakespeare, though he may aid us. We get it by experience; by mingling in society; by observation; by close scrutiny of character. But the truth should never be lost sight of, that these peculiarities or differences are grafted on the general principles, and more or less influenced by them. It is true, then, that we should look within ourselves for a knowledge of human nature; but for a knowledge of character, or difference of persons, we must go out into the world. The field is the

most interesting that the mind can contemplate, especially as there seems to be no end to the variety of character. We are constantly led on from one wonder to another. F. G.

[Written for the Valley Farmer.]

TWILIGHT.

Oh twilight hour! that art so very cool
And balmy in the summer eventide,
With thy rich breathings quieting the wind
And the uneasy waters. Twilight hour!
Whose mantle is the drapery of dreams;
And thou hast ever been in poetry,
Life's holy time. Thou who wert wont to steal
Upon us, as thy sandals were of dew,
How sadly comes the rustle of thy step
In the decaying season of the year!
My early fire is low, and hurrying feet,
In the short pauses of the wind, go by;
And the unquiet leaves that sighingly
Obey the aerial summons and sweep on,
Seem mourning for the green and pleasant trees;
And the clouds wear sad colors, and I feel
As there were nothing in this fading world
That is not cold and sorrowful like this.

SMALL HOUSES.

We confess to a liking for small houses and small women. Touching the former, we will here give seven good, and, as we think, sufficient reasons for our preference: In the first place they imply small cosy rooms—not cramped, but mensurable. So small that the light and heat are reflected from all parts. Family comfort cannot thrive in a hall or a field.—Imagine that the boy who did not feel sufficiently acquainted with his father to ask him for a new cap, lived in a "palatial residence." I doubt not, for the same reason, people living among mountains, are more sociable than those who live on plains. Affection, like a smile, dies unless it is reflected.

Secondly, we like small houses, because they look paid for; and a small house paid for, holds more happiness and real friends than a large one unpaid. Anything unpaid is uncomfortable. To an honest man debts are demons; and an indebted house—a haunted house full of creeping horrors and disquietudes as that described by Hood.

Thirdly, we like small houses, because they look sympathising. They are like people not over-dressed; more ready to make acquaintance. A big house is like a big man—unaccostable.—Stately porticoes and lordly halls are like the titles D.D., L.L.D., etc.—imposing, distant, and inclined to be repellant.

In the fourth place, we like a small house, because it excites no envy. It matters not how elegantly it is furnished, how tastefully surrounded and adorned by shrubbery and flowers, its observers are its admirers and friends. It does not fall under the "evil eye"—and no man who has a soul would wish even his house—his home, the abode of his wife and children—to be an object of envy. Everybody can say, and is encouraged to say, "I can build such a house"—which words are equivalent to a blessing.

Fifthly, we like a small house, because it must always remain the people's house. The industrious mechanic can earn such a house; the diligent laborer can own, by patient industry, such a house. The widow can live in such a house. And what a rich, rational comfort it is to live in such accommodations as of necessity must be the dwelling-places of nine-tenths of the race.

Sixthly, we like small houses, because in such most of us begin life. It is with small houses that the affections of young couples, the first care and joys of married life, are mostly associated. Most of us must begin in a small way.

In the last place, we prefer the small house, because it is not so far removed from our last narrow home. Only a few steps down, and our weary feet are there. But from the large palace to the narrow grave, the change is too abrupt. Ohio Farmer.

[Written for the Valley Farmer.]

FACTS AND FANCIES.

Remember, friendship has always a cold shoulder in reserve.

After love, friendship is never possible. As love enters, friendship departs, never to return. This is a sign of true love; for true love admits of no compromise: it must have all or nothing.

Jealousy is the sentinel of love, and accompanies it as the shadow the image, its sword springing forth at the least indication of danger.

Familiarity palls the appetite. Novelty sharpens it.

The sweetest smile is the one least affected.

Laughter may be an effort, or it may be natural. The loudest laughter often hides the saddest heart.

Happiness has never been defined, though so often attempted. It still remains "better felt than told."

The snow that appears in the morning, is often heard singing in the brook at night.

The Three Cardinal Passions—Love, lucre and fame—only a superior mind can possess them all. F.G.

WILT THOU LOVE HER STILL?

Wilt thou love her still, when the sunny curls
That over her bosom flow,
Will be laced with the silver threads of age,
And her step falls sad and low?
Wilt thou love her still when the summer's smiles
On her lips no longer live?
"I will love her still
With right good will!"
Thou wilt love her still? then our cherished one
To thy sheltering arms we give.

Wilt thou love her still, when her changeful eyes
Have grown dim with sorrow's rain;
When the bosom that beat against thy own
Throbs slow with the weight of pain;
When her silvery laugh rings out no more,
And vanished her youthful charms?
"With free good will
I shall love her still."
Thou wilt love her still? then our dearest one
We give to thy loving arms.

Remember, no grief has she ever known,
Her spirit is light and free;
None other, with falterless step, has prest
Its innermost shades, but thee! [youth
Then wilt thou love her still when the thoughts of
In their blushing bloom depart?
"Through good and ill
I will love her still!"
Thou wilt love her still? then our darling take
To the joy of thy noble heart.

Remember, for thee does she smiling leave
The friends of her early days—
No longer to meet their approving looks,
Nor their fond unfeigned praise.
Forgive her then if the tears fall fast,
And promise to love her well.
"I will love her still
With right good will!"
Thou wilt love her still? then with peaceful trust
We our sobbing sorrows quell.

When her father is dead, and the emerald sod
Lies soft on her mother's breast;
When her brother's voice is no longer heard,
And her sister's hushed to rest—
Wilt thou love her still? for to thee she looks,
Her star on life's troubled sea!
"I will love her still
Through good and ill!"
With the marriage vow on her youthful lip,
Then, we give our child to thee.

OLD COLUMBIAN MAGAZINE.

IDLENESS.—Nine-tenths of the miseries and vices of manhood proceed from idleness. With men of quick minds, to whom it is especially pernicious, this habit is commonly the fruit of many disappointments and schemes oft baffled; and men fail in their schemes not so much for the want of strength as from ill direction of it. The weakest living creature by concentrating his powers upon a single object, can accomplish something; the strongest by dispersing his over many, may fail to accomplish anything. The drop, by continual falling, bores its passage through the hardest rock—the hasty torrent rushes over it with hideous uproar, and leaves no trace behind.

Trust not the world, for it never payeth that it promiseth.

THE GODDESS OF POVERTY.

Paths sanded with gold, verdant heaths, ravines loved by the wild goats, great mountains crowned with stars, wandering torrents, impenetrable forests, let the good goddess pass through—the Goddess of Poverty!

Since the world existed, since men have been, she traverses the world, she dwells among men; she travels singing, and she sings working, the goddess, good Goddess of Poverty!

Some men assembled to curse her. They found her too beautiful, too gay, too nimble, and too strong. "Pluck out her wings," said they. "Chain her, bruise her with blows, that she may suffer, that she may perish," the Goddess of Poverty!

They have chained the good goddess; they have beaten and persecuted her; but they cannot disgrace her. She has taken refuge in the soul of poets, in the soul of peasants, in the soul of martyrs, in the soul of saints, the good goddess, the Goddess of Poverty!

She has walked more than the Wandering Jew; she has traveled more than the swallow; she is older than the Cathedral of Prague; she is younger than the egg of the wren; she has multiplied more upon the earth than strawberries in Bohemian forests, the goddess, good Goddess of Poverty!

She always makes the grandest and most beautiful things that we see upon the earth:—it is she who has cultivated the fields and pruned the trees; it is she who tends the flocks, singing the most beautiful airs; it is she who sees the first peep of dawn, and receives the last smile of evening, the good Goddess of Poverty!

It is she who carries the sabre and the gun; who makes war and conquests. It is she who collects the dead, tends the wounded, and hides the conquered, the goddess, the good Goddess of Poverty!

Thy children will cease one day to carry the world upon their shoulders; they will be recompensed for their trouble and toil. The time approaches when there will be neither rich nor poor; when all men shall consume the fruits of the earth, and equally enjoy the gifts of God; but thou wilt not be forgotten in their hymns, Oh, good Goddess of Poverty. GEORGE SAND.

Merit is never so conspicuous as when it springs from obscurity, just as the moon never looks so lustrous as when it emerges from a cloud.

Never forsake a friend in time of need.

Humorous Clippings.

"A little nonsense, now and then,
Is relished by the best of men."

Little Boy—"Father, I know how to fire off the guns and cannons of earth, but who is tall enough to touch off thunder?"

A little boy returning from the sunday school, said to his mother, "Ma, aint there a kittenchism for little boys? This catechism is too hard?"

Hearing a physician remark that a small blow will break the nose, a rustic exclaimed—"Well, I donno 'bout that, I've blowed my nose a great many times, and I've never broken it yet."

"Do you think that clams are healthy?"
"Yes; never knew one to complain of being out of health in my life."

Scene—(Grocery store, lady purchasing codfish—a young man of the law standing near.)
Lady—"Do you like cod-fish balls, Mr. H.?"
"*Mr. H.*—(Hesitatingly). "I really don't know, madam; I never recollect attending one."

"Do you see this stick?" said a stupid acquaintance to Sidney Smith. "This stick has been all round the world, sir."
"Indeed, sir," said the remorseless Sidney; "and yet it is only a stick!"

A burglar was once frightened out of his scheme of robbery, by the sweet simplicity of a solitary spinster, who putting her night-capped head out of the window, exclaimed, "Arn't you ashamed!"

"Sir," said a husband, (speaking of his wife, a lady whose mind was exclusively devoted to domestic affairs,) "sir, she would have made a dumpling of the apple that revealed the law of gravitation to Newton."

A skeptic thinks it very extraordinary that an ass once talked like a man. Isn't it still more strange that thousands of men are continually talking like asses?

A printer's apprentice says, that at the office they charge him with all the *pi* they *do* find, and at the house they charge him with all they *don't* find. He does not understand that kind of logic.

A person inquiring at one of our railway stations what time the 7.45 train would start, was answered, "At a quarter to eight." "Bless me," exclaimed the inquirer; "you are always changing the time on this road."

"Tough, madam, tough, did you say?" said an irascible boarder to the landlady, as he was trying to carve what was ostensibly a chicken. "Yes'm, and were I to give my opinion as to the fowl, I should say it was old enough to have scratched up the seeds of original sin, when they were first planted."

A lawyer once jocosely asked a boarding house keeper the following question: "Mr.——, if a man gives you $500 to keep for him, and he dies, what do you do? Do you pray for him?" "No, sir," he replied; "I pray for another like him."

"I will and bequeath," said an Irishman in his will, "to my beloved wife, all my property without reserve, and to my oldest son Patrick one-half the remainder; and to Dennis, my youngest son, the rest. If anything is left, it may go to Terrence McCarty, in sweet Ireland."

"Pray excuse me," said a well-dressed young man to a young lady, in the second tier of boxes in a theatre. "I wish to go up stairs and get some refreshments; don't leave your seat."—A sailor, seated in a box near his girl, and disposed to do the same thing, rose and said:—"Harkee, Moll, I'm going aloft to whet my whistle—don't fall averboard while I'm gone."

"My gracious," said Ike, "if some fairy would give me a pair of wings, wouldn't I go round among the planets, though? I'd go to Mars, and Venus, and Jupiter, and ——"
"And Satan," interrupted Mrs. Partington;—"I'm afraid you'll go there without wings."

A female writer says nothing looks worse on a lady than darned stockings. Allow us to observe that stockings that need darning, look a great deal worse than darned ones—darned if they don't.

A clergyman, who was addicted to strong potations, having imbibed more than usual one day, his stomach rejected the overdose. A member of his flock passing by at the time, inquired what ailed him. The parson who was on his knees retching violently, hiccupped out that it was an outpouring of the spirits.

An exchange wishes to know if the overt acts of Lincoln, so often referred to, is the ax he split rails with?

Who was it who first introduced salt provisions into the navy? Noah, for he took Ham into the Ark.

"Sam, why am lawyers like fishes?" "I don't meddle with de subjec', Pomp." "Why, don't you see, nigga, because dey am so fond ob de-bate."

An attorney having died in poor circumstances, one of his friends observed that he had left but few effects. "That is not much to be wondered at," said another, "for he had but few causes."

"Tommy, what are you going to do with that club." "Send it to the editor, of course." "But what are you going to send it to the editor for." "Cause he says if any one will send him a club, he will send them a copy of his paper."

When does a farmer act with great rudeness towards his corn? When he pulls its ears.

Domestic Department.

A Cheap and Good Pie—Ed. Valley Farmer: The following recipe for making a good pie is worthy of dissemination. In half a teacup of vinegar put one tablespoonful of butter, one teacup of molasses, one teacup of dried currants, one egg, and a little nutmeg. Roll two soda crackers fine, and add to the above, and you will have material enough for three pies.—Try them, and you will make more. S. S.

Grape Jelly.—Boil your grapes till very soft in a double kettle, or, if you have not that, in a large earthen pan, covered tightly with a plate, set in a kettle of boiling water. When soft, rub through a sieve; to the pulp thus obtained, put a pound of sugar to a pound of pulp. Stir well together; boil slow twenty minutes, taking care it does not burn. Dip out when a little cool into small bowls, jars, or large tumblers. Cover with a piece of white paper dipped in brandy, and then paste newspaper tightly over the top. The brandied paper is to be laid on the top of the preserve, to keep it from molding. I should not be afraid to warrant you, that grapes prepared in this way, would keep three years. Be sure and put it in small dishes, it keeps so much better. When wanted for use, remove the pasted paper, and if you find the other paper all covered with mold, don't be alarmed, it wont do any hurt, take it off carefully, and turn the grape out upon a plate, when you can cut it into any shape—round, square, diamond, or any way, as it will remain just as you cut it. Keep in a dry, dark, cool place.

Pickled Green Tomatoes.—Take tomatoes after they have grown to their full size, and slice them thin; scald them an instant in salted water; then lay them in a jar, with vinegar, cloves and cinnamon.

Tomato and Onion Pickles.—To one quart of vinegar, add half a pound of brown sugar, half an ounce of cloves, and one ounce of cinnamon buds.—Select small onions; boil in the vinegar three minutes; skim them out; when cool, lay them down in a crock; first a layer of onions, and then tomatoes (the small plum tomato is the best), and when the vinegar is cold, pour it over them, and set in a cool place.

Pickled Ripe Tomatoes.—Pick them before ripe enough to be soft; wash and prick them; make a brine so strong that it will dissolve all of the salt; boil and skim, and when cold pour it on the tomatoes. Let them stand eight days; pour off, and put on a weak vinegar, which let remain the same length of time; then remove, put on strong vinegar, and whatever spices suit your taste; tie up and put away.—You will have nice pickles, and those that will keep.

Pickled Peaches.—Pare the fruit, then add one half pound sugar to every pound of fruit. Put them in a jar; a layer of fruit, and then a sprinkling of sugar, and let them stand all night. To the juice thus expressed, add vinegar enough to cover them; cook a short time, and they are done. Spice as you please. I learn from a German lady (an excellent housekeeper) that a piece of horse-radish root put into the jar with any kind of pickles, will prevent any scum from rising.

Watermelon Pickles.—Ten pounds of watermelon rinds boiled in pure water until they are tender; drain the water off, then make a syrup of two pounds of sugar, one quart of vinegar, half an ounce of cloves, and one ounce of cinnamon. The syrup to be boiled and poured over the melon rinds boiling hot. Drain the syrup off, and let it come to a boil, and pour it over the melon three days in succession. The rinds prepared in this way, far surpasses any pickle I ever tasted. It will keep from one year to another.

Marble Cake.—Whites of eight eggs; two cupsful white sugar; two and a half cupsful flour; one-half cupful butter; one-half cupful sour milk; one-half teaspoonful soda; one teaspoonful cream tartar. Then take the same proportions, using red sugar sand in place of the two cupfuls of white sugar; put it in pans—first a layer of white, and then the pink dough, and you will have a beautiful cake. When cut, it will be in waves of pink and white.

Pickled Cucumbers.—Wash, and cover them with a cloth; turn over them a weak brine, boiling hot; cover closely. Let them remain a few days, then rinse the brine from them, and remove to cold vinegar, with horse-radish and spices to keep; keep covered closely.

Loaf Cake.—The old-fashioned loaf cake which our mothers used to make—not too rich to put in our school baskets for lunch, and yet one of the most excellent of all the many sorts of cake—may be prepared on bread-making days without much trouble, by taking three cupsful of bread dough, two eggs, half a cupful of milk, and a teaspoonful of soda, working these thoroughly together; stir in half a pound of raisins, with nutmeg or other spices; let it rise until light, and bake in a moderate oven.

Burns or Scalds.—As accidents from these causes are unfortunately of oft recurrence, and most generally fall to the portion of children, a remedy at once simple and always at hand, producing the most beneficial results, cannot be too well known. In case, then, of an accident from fire or any scalding liquid, take lard and flour and make a salve, letting the flour form the chief part. Spread this tolerably thick on pieces of linen or other rag, and apply to the suffering part, changing often, till all the fire is drawn out. I once knew of a little boy who was scalded on the foot, by the tipping over of a saucepan, this remedy was applied with almost instant relief from pain, and changed for fresh bandages about every ten minutes or less. Every one ought to keep this remedy in mind and publish it among their friends.

Ginger Wine.—To 12 lbs. of sugar, add 18 quarts of water, and 4 ounces of the best Jamaica ginger, bruised well; slice the peel of 4 lemons; take all and boil it for ½ of an hour, taking off the scum as it rises. Put it into a tub, when lukewarm, and add ¾ of a spoonful of yeast, the juice of 4 lemons, and 1 lb. of raisins chopped. Put into the cask, let it stand a fortnight, stirring every day; then add a quart of brandy and 1 oz. of isinglass. Stop it down, and it will be fit to bottle in six weeks.

A Certain Cure for Colds.—A remedy never known to fail: Three cents worth of licorice, three cents worth of rock candy; three cents worth of gum arabic. Put them in a quart of water; simmer them till thoroughly dissolved; then add three cents worth of paregoric, and a like quantity of antimonial wine. Let it cool, and sip whenever the cough is troublesome. It is pleasant, infallible, cheap and good.

Washing Flannels.—Make a hot suds with good soft soap; put in the flannels, and let them lie a few minutes; then wash thoroughly with the hands. Have ready some boiling water; dissolve a little blueing or indigo, and pour it on sufficient of the hot water to prove the goods; put them in, and let them remain until cool enough to wring. Dry in the air, and iron when slightly damp. Iron on the right side.

Preserved Pickled Plums.—To four quarts of plums put four pounds of sugar; when nearly done, add half a pint of vinegar, and half an ounce of ground cloves. The plums are to be cooked as preserves before the vinegar is added.

Editor's Table.

Fair at Allenton.

The Fair at Allenton, St. Louis County, of the Meramec Horticultural Society, was a fine affair. We never spent at any fair a more agreeable day. There was a fine exhibition of Fruits, Flowers, Vegetables, &c. An excellent pic-nic dinner was enjoyed by all—the fair ladies of the vicinity having made ample and most satisfactory arrangements in that department.

Addresses were delivered by the President, Dr. L. D. Morse, Norman J. Colman and Wm. Muir.

The Meramec Horticultural Society is a credit to the members and to the State. This is, undoubtedly, the only fair which will be held in the State this year. The monthly meetings have been regularly held; the same genial intercourse exists among the members, though of different political views, that has ever existed, and it is all owing to the influence of this Society. They can all unite in promoting the cause of horticulture, they are all brothers at least in horticulture, and no political discussions or wranglings are entertained. Oh, that we had thousands of such societies in Missouri.

How to Keep Winter Fruit.—Let the fruit hang on the tree as long as it will be safe from the frost.—Pick by hand, so as to avoid bruising. Put them up stairs, or in some out-building, and let them remain there as long as they can without being injured by frost, so that they may undergo the sweating process; then put them in the cellar or pit, and they will keep well all winter.

It is a great mistake to pick winter fruit and put it at once in the cellar. The cellar is too warm, the fruit sweats, the moisture has not a chance to evaporate, and it speedily decays. Those having large quantities of fruit, will be benefitted by following the above instructions.

A Few Hints for the Month.—Those who have not yet cut and shocked their corn, should lose no time in doing so before frost comes. Delay is dangerous. There is a vast amount of nourishment in corn stalks and blades cut up before frost.

Now is the time, also, to go into the corn-fields and select the largest and best ears for seed corn. Propagate only from the best, whether from stock or grain. A few hours spent now in selecting good seed corn, will pay a splendid profit by the increase of next year's crops.

Fatten hogs and other stock now, while the weather is pleasant. Feed them all they want. Keep them quiet. Give them warm and comfortable quarters for sleeping, and they will fatten rapidly.

Fall plowing should now be proceeded with, especially with tenacious clay soils. The teams have now but little to do. A heavy coat of weeds is turned under for manure; and the farmer will find that it pays to plow in the fall, even if he plows the ground again in spring.

Ills. State Fair.—We regret to hear that the State Fair at Chicago suffered so severely from continued rain. It was literally drowned out. The most extensive preparations had been made; over twenty thousand dollars had been offered in premiums; and we had hoped it might meet with the greatest success. We expect the failure will produce a heavy loss to the Society.

Fair at Belleville, Ills.—We are not apprised at this writing, of the time of holding the Fair at Belleville, but believe it is about the middle of Oct. As there will be no fair held in Missouri this year, and as Belleville is just opposite St. Louis, those who wish to see at least one fair this year, had better go over. The St. Louis daily papers will mention the time. The Fairs at Belleville are always excellent and well worth a visit.

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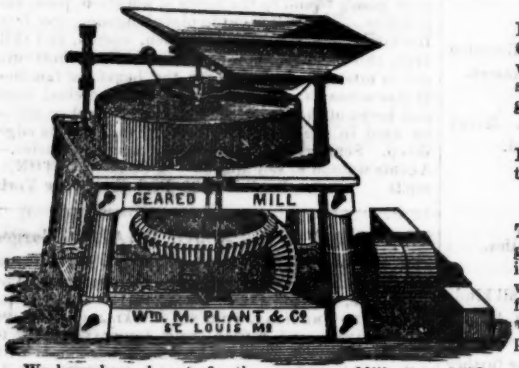

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